ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED IN THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER.

VOL. XI SPRINGFIELD, ILL., APRIL, 1907 NO. 4

ORIGINAL ARTICLES

A NEW TREATMENT FOR TRIFACIAL NEURALGIA, WITH REPORT OF CASES; A PRELIMINARY REPORT.*

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CHICAGO.

By the above title I do not wish it to be understood that the method to be spoken of is of my own devising. Somewhat less than a year ago I had an opportunity of seeing some of the patients treated by Lévy and Baudouin of Paris and of witnessing Dr. Lévy treat one patient. The results are so good and the procedure so simple that immediately on my return, some six months ago, I proceeded to give it a trial.

Without entering into the history of the treatment of trifacial neuralgia by means of injection of various substances, I will briefly state that a few years ago Schlösser of Munich proposed and carried out deep injections of alcohol, that the technique was modified and carried out very successfully by Ostwalt, and that Lévy and Baudouin devised the method which I have been using.

The substance used is alcohol, beginning with a strength of about 70 per cent. and gradually increasing it to 90 per cent. To this is added a little cocain or stovain to obviate any immediate pain or discomfort caused by the injection. They recommend, and I at first used, some morphin in the solution, but I soon gave this up, as the pain of the injection is slight and continues but a few minutes. Besides, the morphin nauseated two or three patients.

The technique is exceedingly simple. The instrument used is a needle of large caliber and about 12 centimeters long, marked off in centimeters up to five, beginning at the point. The needle is fitted with a stylet of such a length that when pushed home the end is flush with the point of the needle. (See figure, which is about two-thirds size of needle.) For the injection a syringe holding two cubic centimeters is employed, the nozzle of which will fit snugly into the end of the needle.

* Read before the Chicago Medical Society, March 6, 1907.

For the third, or inferior maxillary branch of the fifth nerve, the needle is inserted at the lower border of the zygoma, 2½ centimeters in front of the anterior border of the external auditory meatus. The bony ridge of the temporal bone, as well as the descending root of the zygoma, can always be felt along the front border of the meatus. The stylet is partly withdrawn, the point of the needle pushed through the skin and subcutaneous tissue and the stylet is then pushed home so that for the remainder of the penetration the blunt end of the stylet serves instead of the sharp point of the needle. This is to prevent the possible transfixion of blood vessels. The needle is then pushed inwards in a plane at right angles to the side of the face and inclined a little backwards to a depth of 4 centimeters. At that depth the point should reach the inferior branch of the fifth nerve as it emerges from the foramen ovale. The stylet is then withdrawn, the syringe fitted to the needle and the injection slowly made.

For the middle branch, or superior maxillary division of the fifth, the point of entrance is at the lower border of the zygoma, ½ centimeter posterior to the point which would be reached by prolonging downward the line of the posterior border of the perpendicular process of the malar bone. From this point the needle is passed almost perpendicularly in-

ward, being inclined slightly forward and upward. At a depth of 5 centimeters the point should reach the nerve at its emergence from the foramen rotundum into the spheno-maxillary fossa. Up to the present I have treated six cases, which are very briefly as follows:

Case 1.—A single lady of 43 years who had had typical trifacial neuralgia for the last eight or nine years. She had had the usual intermissions, one for as long as a year and a half, but for several years had not had an entire day free from pain. The pains were started in the characteristic way by touches upon the face, by eating, drinking, talking, etc. She received the first injection on Aug. 3, 1906, and, although she was treated again on the 6th and 9th, she has not had a single pain since the first injection.

Case 2.—A lady about 40 years of age began to have trifacial neuralgia in 1890. Since that time she has received all manner of non-operative treatment, sometimes with no effect whatever, sometimes with relief for several weeks or months. For the last few years she has been almost a constant sufferer in spite of all that could be done. She received the first deep injection on September 31 and has not really suffered since that time, but, although she received further injections on September 24, October 11 and 18, November 13, January 16 and 24 and February 4, there have been times since the first injection when she had gentle reminders of her old trouble. She has had no pain since the injection of January 16. She takes no precautions whatever for avoiding the pain;

exposes the face to all kinds of weather without protection, eats and drinks and talks and scrubs the face *ad libitum*.

CASE 3.—A man of 62 years began to have trifacial neuralgia three and a half years ago. After a period of suffering the pain left and he had a free interval for nearly two years, when it returned with increased violence. On Dec. 8, 1905, the lower jaw was trephined and a piece of the nerve excised and the nerve was also divided at the mental foramen. Two weeks later the pain returned. On medicinal treatment he then improved for a time, but in July, 1906, the old trouble recurred worse than ever. He received peripheral injections of alcohol at the site of the old operation with no benefit. A week later a surgeon gave him the osmic acid treatment of all three branches, which afforded relief for less than three weeks. He received the first deep injection of alcohol on October 10 and injections for either the middle or inferior branch on October 12, 16 and 29, November 18 and 30, January 4, 7 and 20, nine injections in all. He has had practically no discomfort since the first injection, but had occasional slight twinges and three or four severe pains up to about the last of November. Since that time he has been entirely free.

CASE 4.—A fireman of 51 began to have neuralgia of the right middle branch of the nerve nine years ago. Since that time he has had one free interval of four years, and the case has not been an exceedingly severe one, though perfectly typical.

He received the first injection on December 17, which entirely relieved him and, contrary to instructions, he did not return for further treatment until the pain recurred one month later. He received further injections on January 17 and 22, since which time he has been practically well, but I thought it prudent to give him further treatment on January 27, February 3, 10 and 17. At present he is entirely free from pain, can expose the face freely to cold winds and mechanical irritation, and has gained six pounds in weight. I think the gain in weight is simply due to the fact that he can eat as frequently and as much as he likes without starting the pain.

CASE 5.—A thin, anemic, delicate woman of 62 years, with a dilated stomach, was first seen Jan. 1, 1907. She had had typical trifacial neuralgia for four years, and at the time of her first visit was suffering intensely. She came in with the head all wrapped up to protect it from even the slightest breath of air. She received an injection at once, with instant relief, and after the first injection it was impossible to start the pain by any sort of peripheral irritation. She was unable to return for further treatment until two weeks later, but since the first treatment has had absolutely no pain. She received further injections on January 13, 17, 22 and 27.

CASE 6.—A woman of 44 years began to have facial neuralgia in the summer of 1901. From that time until early in 1904 she received various kinds of treatment with but very little success. In February, 1904, she received the osmic acid treatment at the hands of an expert with this method, and, with the exception of a couple of short relapses, she was free from pain until the summer of 1905. On September 15 she again

received the osmic acid injections in a most thorough manner and was again free from pain, except for a few days, until the fall of 1906. She received the first deep injection of alcohol on January 19. This injection was an entire failure, as I failed to reach the nerve. The cause of this was that the coracoid process of the inferior maxilla extended so far forward that the nerve could not be reached from the usual point of entrance. The next day I repeated the injection, inserting the needle about one-half centimeter further forwards, and she has had no real pain since this second injection. She has received injections, some for the middle and some for the inferior branch, on January 22 and 29, February 4, 12, 19 and 26 and March 5, nine in all.

Concerning the future of this treatment I do not wish to hazard a definite opinion. It does not seem reasonable to suppose that injections of alcohol will radically cure trifacial neuralgia. That these injections will hold the disease in abeyance up to a year or more is certain. The operation, if such it may be called, is practically devoid of danger, requires no anesthetic and is not difficult to learn. In the great majority of cases it affords immediate relief and the patient may go about his business within a few minutes after the injection is made. The only really unpleasant result or complication that I know of is the possibility of passing the needle into the posterior pole of the orbit. Lévy and Baudouin state that they have perpetrated this inadvertence or inaccuracy, and I have once done the same thing. This occurred when I gave the last injection to the last patient, and the only bad result so far as I know was a very unpleasant edema of the upper eyelid so that the eye was entirely closed and the patient much distressed about it for a couple of days. Lévy and Baudouin state that in one case putting the injection into the orbit caused a paresis of the external rectus of the eye for a few days.

34 Washington Street.

DEFECTS OF VISION AND HEARING IN THE PUBLIC SCHOOLS.*

J. Whitefield Smith.

BLOOMINGTON, ILL.

IMPORTANCE OF THE SUBJECT.

The medical profession throughout the United States, and particularly in our own great commonwealth, seems to be in the midst of a revival of education. Not only in scientific research, that is of interest to themselves, but in matters that command the attention of the entire citizenship of the state. The laity is being informed in a way that it never has been before on medical and hygienic questions that are of supreme importance. I need only call your attention to the grand work that is being done in this state in the matter of tuberculosis to convince you of the truth of this statement. The intelligent members of the profession everywhere are engaged in this popular education, and the fruits of their

* Read before the Illinois State Medical Society, May, 1906.

labors are being realized by a more enlightened and appreciative public.

Recently the Tuberculosis Institute of Chicago was incorporated, which contemplates an educational department to carry on the campaign of public instruction regarding tuberculosis by means of lectures and the distribution of printed information. The State Board of Health has been very efficient in disseminating literature on this subject, calling attention to the importance of this question to state officers and to the officers of the municipalities throughout the state. Local physicians in the different cities of the state have delivered lectures before school boards and teachers' conventions on this important subject, with the result that the laity is being informed and have something of an intelligent idea of tuberculosis and of precautionary measures and the methods in use tending to stamp it out.

All of this is the result of education—medical education, coming from the authority of an intelligent profession. But, gentlemen of this society, this is not the only question, important as it is, that demands broad-minded consideration by the medical profession. There are many others, and the one to which I wish to direct your attention is not among the least of them. The future of this great republic necessarily must depend upon the youth of our land. We who are actively engaged in the duties of life at present shall sooner or later pass off the stage of action and the rising generation shall take our place. It seems to me that we have no higher national duty nor greater responsibility or obligation to perform than to make the succeeding generation as efficient in every sense of the term as it is possible.

This, no doubt, can best be accomplished by giving them the benefits of a liberal education—an education that is broad and general in its foundation and far-reaching in its ultimate attainment. It is true that the duties of the hour, as physicians and surgeons, engage our time and attention with the necessities and emergencies of life which are constantly arising, but we also should be possessed of that altruistic spirit which looks beyond the present needs, and, in making our own lives worth the living, protect and safeguard the lives, health and comfort of our school children. If a cruel inheritance or an unavoidable environment has subjected them to an unnecessary bondage or restraint, or has abrogated their intellectual opportunities, or has placed them at a disadvantage in the acquirement of an education, I look upon it as the duty of the medical profession to inform the public mind so that the proper means may be intelligently employed to correct the conditions in so far as it is possible.

STATISTICAL REPORT.

According to the report of the Commissioner of Education, 1903, there were 16,009,361 children enrolled in the public schools of the United States. Illinois, which is the third state in point of enrollment, had 969,414, of which 487,191 were boys and 482,223 were girls. It is fair to assume at present that there are about 1,000,000 school children enrolled in the public schools of Illinois. This estimate does not include

the children and pupils of the following: Physical training schools, industrial schools, technical schools, normals, colleges, universities, parochial schools, agricultural and mechanical schools, reform schools, etc. Beside, in our foreign possessions, the provincial schools are under the public school system, with the following estimates: In the Philippines there are about 2,000 primary schools with an enrollment of 150,000. Hawaii has 56 schools with 5,413 children, and Cuba has 355 schools with an enrollment amounting to 143,085. According to the estimation of the press, there are 1,800,000 school children in Illinois that are enrolled in the various educational institutions, including the public schools.

THE PRESENT CONDITIONS.

This question has received some consideration by the profession of the state and has been presented to the Illinois State Medical Society and also came before the American Medical Association, and some steps have already been taken in the right direction toward its solution. At a meeting of the Illinois State Board of Health, held in Chicago in July, 1900, it was deemed essential that some action be taken by the board to protect the sight and hearing of the school children of the state, and a committee was appointed to consider the matter at length and to report to the board at a later meeting.

The attention of the State Board of Health was directed to this matter by the facts found by the Child Study Department of the Board of Education of the City of Chicago. This department made a systematic examination of the vision and hearing of the school children of the city and found that 32 per cent. of the boys and 37 per cent. of the girls in the schools have defective vision, falling two-thirds below the normal, and that this number grows steadily larger from the beginning to the end of school life; also, that many apparently dull pupils are only so because they are suffering from defects of vision. The committee was impressed with methods that they investigated, and a plan of examination was strongly urged, the committee recommending that these examinations be made in every school in the State of Illinois. The board unanimously approved the recommendations of the committee. The plan of examination proposed consists of a brief and simple examination of each child's eyes and ears once a year by the school teachers.

The examinations, while practical in character, are made in the simplest manner possible, and are thoroughly unobjectionable in every way. The teacher simply asks ten questions, which disclose the existence of important eye or ear diseases. The examination is so simple that the teacher can easily examine a child in five minutes. The teacher will, of course, be unable to specify the character of the child's affliction, but she will learn that a defect exists, which is sufficient. The remainder of the investigation must be intrusted to a physician. If the questions and answers disclose the existence of some eye or ear defect in the pupil the parent is notified by a card of warning. This card merely states that an eye or ear defect is believed to exist, and the parent is earnestly re-

quested that the matter be attended to, as the existence of such defects necessarily retards school progress and militates against the well-being of the child. Action by parents is not compulsory, but no parent is apt to disregard this advice. If medical advice is necessary the parents are, of course, at perfect liberty to consult any physician whose services they desire.

It is believed by the State Board of Health that if this plan is adopted throughout the state it will necessarily be of immeasurable benefit to school children, as the eye and ear diseases will be disclosed that may be benefited by proper treatment, and children will, therefore, be placed in better condition to commence the battle of life and acquire a desirable education. The State Board of Health, therefore, trusts that school authorities will see that this practical, simple, inexpensive, unobjectionable and efficient method of caring for the eyes and ears of school children throughout the state be adopted in all public schools in the State of Illinois. The State Board would also ask that a report may be made to the secretary by each school, of the number of children examined and of the number presenting defects of vision or hearing.

RESPONSIBILITY OF THE PROFESSION.

From the foregoing it is evident that a large percentage of school children are defective in vision and hearing. In most cases these defects can be remedied. The reason that so large a number are neglected is for want of information. It would seem that in view of the importance of the subject that the medical profession has a two-fold duty to perform. First, to educate the public mind by directing attention to the necessity of the question; second, to urge upon the school superintendents, boards of education and teachers in the public schools the importance of their co-operation in bringing to notice these defects and assisting in placing the responsibility intelligently before the parent or guardian.

Children with visual or aural defects can not perform the duties assigned them by their teachers; but it is not the purpose of this paper to discuss this phase of the subject. I am under many obligations to Dr. George H. Gorham of Bellows Falls, Vt., who is secretary of that State Society, for a concise report on this subject.

The following is an abstract of the report: Of the 2,064 schools of the state, in which there were 41,373 children examined, 11,104 were found to have defective eyes and 750 to have defective ears. This report shows 26 per cent. defective in vision and 1.8 per cent. with disturbances of hearing. In this connection I may say that examinations, also, were made of the nose and throat, in which a large percentage were afflicted. In view of these facts and figures, I should like to present the following for the consideration and indorsement of the Illinois State Medical Society, as a measure looking forward to the protection of the vision and hearing of the million of our school children, of which 250,000, at least, by careful and conservative estimate, demand such protection.

PROPOSED ENACTMENT.

AN ACT PROVIDING FOR THE CARE OF THE VISION AND HEARING OF PUPILS IN THE PUBLIC SCHOOLS.

Section 1.—The State Board of Health and the Superintendent of Public Instruction shall prepare or cause to be prepared necessary test cards, blanks, record books, and such other appliances as may be needed to test the vision and hearing of pupils in the public schools, together with instructions for their use; and the Superintendent of Public Instruction shall furnish the same, through the office of the County Superintendent, free of expense, to every school in the state.

The Superintendent of Schools, principal, or teacher in every school of the state, during the first month of the term of each school year, shall test the vision and hearing of all pupils under his charge and keep a record of such examinations, in conformity with the instructions furnished; and shall notify in writing, by filling out a blank provided for this purpose, the parent or guardian of every pupil who shall be found to have any defect of vision or hearing, or any disease of the eyes or ears, and shall make a written report of all such examinations required, the same to be sent to the Superintendent of Public Instruction, to be placed on record.

Sec. 2.—The State Auditor is hereby directed to draw his check on the State Treasurer for such sums, and whenever required, as the Superintendent of Public Instruction, with the approval of the State Board of Health, may request, to carry out the provisions of this act. The total expense under this act shall not exceed $1,000 in any biennial term, ending June 30.

Sec. 3.—This act shall take effect within ninety days after the bill becomes a law.

INFLAMMATION OF THE GALL-BLADDER AND DUCTS.

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MINONK, ILL.

The impetus for my consideration of this subject is the unusual number of cases of this trouble that have presented themselves for treatment during the last four months. The most of the patients were under middle age; none, however, younger than four years of age, and only two more than forty-five years old. The onset of the trouble was kaleidoscopic and the course of the disease varied from mild to one of moderate severity in all but one, which is still under treatment, recovering without operation. The duration of the trouble was, as a rule, from five to fourteen days, one case running twenty-eight days, and one, still under treatment, and who declines operation—except as a last resort—has been afflicted for three months. In most of the cases where the burden of the affection seemed to fall on the gall-bladder the onset was quite sudden and violent. The first symptom would be pain in that region, of a colicky nature; vomiting of bile in considerable quantities, and a temperature of 101° to 104°. In other cases the disease was ushered in with a distinct rigor, followed by about the same temperature, and severe pain in the back and legs. These cases would generally proceed to recovery in from five to eight days.

In cholangitis the onset was generally quite different. In many cases the nausea and vomiting would be the initial symptom of the complaint. This was persistent and unyielding, although but little bile would be ejected. The pains were of a heavy aching character, distributed over the greater portion of the hepatic region, and tenderness, especially on deep

pressure, could be elicited over the greater portion of this area. In two cases pain in the lumbar region was quite severe. Fever would follow the vomiting in from twelve to twenty-four hours, and would seldom go above 101°. In one case, however, a temperature of 103° was recorded. These cases usually did not recover in less time than two weeks, and in many of them sweating profusely at night and on slight exertion, as some of them were not confined to bed all the time. Frequently there was a secondary fever, beginning from the fifth to the seventh day and lasting from two to five days. If this rise of temperature subsided quickly, recovery would generally be rapid, but if it continued it marked the invasion of the hepatic parenchyma by the inflammatory process.

In cholecystitis jaundice was frequently absent, and when it did make its appearance it was liable to be as late as the fourth to the sixth day of the disease. But in cholangitis it was generally present early in the trouble in some degree, varying from a slight tinge of the conjunctiva to an extreme yellowness of the entire surface of the body.

The urine was generally diminished in quantity; specific gravity about 1025, and would contain bile when the affection was of the bile ducts. The percentage of urea was generally increased, but the total excretion was considerably diminished. In a few cases the total amount of urine was increased to four or five pints, when the percentage as well as the total excretion was greatly diminished. In one of the most severe cases the urea remained about normal, but the total solids were very much diminished. A few broad hyaline and granular casts, the granular predominating, were found in many of the cases. A trace of albumin was frequently found, but it was never abundant. In several cases an erythema or urticarial eruption was complained of.

In all of the cases constipation was a prominent symptom, and in the cases of cholangitis it was generally very obstinate. Following the administration of cholagogues and saline cathartics, the stools would be lumpy, mostly liquid, of a green color, and contain large quantities of mucus, and were of a very foul odor.

It is still a moot question as to how the infection reaches the biliary infective origin; as none of the cases came to postmortem or to operation, no positive conclusion as to the nature of the infection could be arrived at. In the few cases where an examination of the feces was made, only the colon bacillus could be found.

It is still a moot question as to how the infection reaches the biliary channels, whether through the portal circulation, the arterial system, or through the intestines by way of the common duct. I am inclined to believe the latter theory to have been the correct one in my recent experiences, as the only illness which preceded the onset of the trouble in any of the cases was an acute attack of dysentery, and this I considered as merely coincident, as it was by no means common. When the trouble follows immediately, or occurs during the course of some of the infectious diseases, the infection is probably transmitted by means of the circulatory system. In the more severe cases, pericholangitis and pericholecystitis may occur, resulting in pus formation in the liver tissues, and through the im-

mediate or mediate relations, the stomach, intestines, pancreas, the kidneys, the diaphragm, the pleura, and the pericardium may participate in the complications.

During the acute stage of the trouble there was generally complete anorexia. Later in the course of the disease, and in some cases continuing ten days or two weeks, there were troublesome digestive and nutritional disturbances, principally those resulting from achylia, for in the majority of cases of cholangitis the organ very slowly resumed its normal functional activity. For this reason fats are poorly taken care of and in consequence the system is deprived of the nutritive value of the same. Other foods which are changed by pepsin pass into the intestinal canal still under its influence, in which state they cannot be assimilated, and consequently produce fermentation, because of insufficient bile having been produced to completely arrest the peptonizing process and allow the pancreatic ferments to do their work, the action of one being inimical to that of the other.

The only cause to which I can attribute the prevalence of the disease is the unusual amount of excessive heat of the past summer. This, by producing circulatory and nervous disturbances, has made infection more easy, by causing excessive perspiration, and thus decreasing the internal secretions and excretions. The latter are decomposed, toxins are produced, which are absorbed, and the liver, being the scavenger of the body, receives the burden of the battle.

In cholangitis, when caused by partial obstruction of the common duct by calculi, there will be paroxysms of pain, not very severe, followed by the well-known symptoms of "hepatic malaria," the cycles of which may be repeated quite regularly for several days. When the process has reached the suppurative stage, pus, mucus and thickened bile will be discharged from many or all of the hepatic ducts. If any of these should become occluded, paroxysms of pain similar to those caused by calculi will be experienced and the general condition will be one of sepsis. If the obstruction continues, whether caused by a stone or a plug of mucus, an abscess will develop in the parenchyma of the liver.

It is within the memory of physicians that these inflammations were supposed to be caused only by the presence of stones in the gall-bladder or gall-ducts, and that this frequently is the exciting cause which brought the condition from a latent state to one of activity there can be no question; but recent observations have to some extent reversed the order of things and demonstrated the fact that without some previously existing inflammatory condition there would seldom, if ever, be any gallstones, since they are now found to be present in all forms of liver trouble in only about twenty-five per cent. of the cases, and it is also known that they can and do exist in the bladder and ducts for years without producing symptoms.

In the subacute form of cholecystitis there is constant sensitiveness of the gall-bladder, and the recurrent attacks of colicky pains constitute a very prominent symptom, and some fever usually follows these paroxysms. The pain is probably due to muscular spasm caused by over-distension of

the gall-bladder. These attacks so closely resemble biliary colic that they have been operated on as such, only to find the bladder filled with mucus and bile, and the mucous membranes swollen and inflamed. About sixteen per cent. of these cases that come to operation are found to contain no calculi. When obstruction of the duct is complete, the bladder will become distended and the pains will be almost as severe as those caused by stone and acute empyema or gangrene of the gall-bladder will result.

ETIOLOGY AND PATHOLOGY.

That this infection is also an etiological factor in the production of cholangitis is evidenced by the multiple hepatic abscesses so frequently encountered in the tropical countries following attacks of dysentery. I believe there is also a toxic form of the trouble caused by absorption of the excreta of the liver when the normal function of the organ is interfered with by either some systemic disturbance, or the pathological sequelæ of some previous infectious disease. For instance, malaria, which may be followed by a necrosis of the hepatic parenchyma, and an occlusion of the capillaries by a destruction of their endothelium, with a deposit of pigments within and around them, and thus encroach upon the lumen of the bile ducts and decrease their excretory and carrying capacity. When to this condition is added an increase of blood pressure due to some febrile condition, perhaps only a transient illness, there will be produced an apparently typical malarial paroxysm, perhaps only one, or possibly several such paroxysms may appear at intervals of twelve to forty-eight hours, depending on the time required to remove the exciting cause. These cases are frequently met with in Central Illinois, especially among the older people, who were early settlers here and victims of the malarial fevers of those days. These attacks are sometimes called malarial and are frequently referred to as evidence to disprove the modern theory of the origin of malaria. I have not yet been able to find the plasmodium in the blood of any of these patients, and anti-malarial treatment was not required in any of them to intercept the paroxysm; in fact, such treatment generally had no effect on them. The only treatment necessary was the administration of cholagogues and such antiphlogistic remedies as were indicated for the relief of the acute illness.

The location of the referred pains in these cases has been varied, and by a consideration of the nerve supply of this organ we can readily understand how this can be. Being liberally supplied by the three systems, the cranial, the spinal and the sympathetic, it is evident that the whole economy must participate, more or less, in the consequences resulting from a cessation or perversion of its functions. The sympathetic nerves are derived from the hepatic plexus, which is an offset from the celiac plexus and that from the dolar plexus. The pain will be felt deep in the dorsal region and in the renal region, because of the junction of the lesser splanchnic nerve with the celiac plexus and its connection with the greater nerve of the same name. The cranial system is represented by the pneumogastric nerves, by which means we get the characteristic head symptoms, and along the course of the nerves through the thoracic cavity

we may get pains around the left lung in the central part of the thoracic region, and in the stomach and spleen, because of the filaments of the left pneumogastric that join the hepatic plexus. Pain under the right scapula and in the pleura, resembling pleurisy, only the pains are not so sharp, around the heart and in the diaphragm, are transmitted through the phrenic nerves to the spinal system.

Many times these pains are the only cause of the patients' seeking medical aid, thinking they have heart or lung trouble. These nerves also communicate with the sympathetic system in the chest cavity and in the hepatic plexus, and also send filaments to the suprarenal capsules. Having thus so wide an area of distributing its manifestations, it is easy to understand that difficulties will arise in differentiating between this and a number of other complaints.

The different forms of these inflammations are chiefly different stages of their destructive processes. I have previously expressed the opinion that the presence of gallstones is due to some previous affection of the biliary tract, and not in themselves a distinct disease, the trouble caused by their presence is chiefly mechanical, the condition which produced them having been removed or restored to a period of latency. When the illness is caused by stones in the gall-bladder, the attacks are of shorter duration; we may be able to find calculi in the feces, and the health of the individual is not so extensively and continuously impaired as in cholecystitis. In the contracted gall-bladder which follows in due course of time if relief is not obtained, the contents are absorbed, the fibrous elements of the tissues develop, the organ gradually shrinks to a small fraction of its normal size, it refuses longer to be a receptacle for the secretions, and the once functionating organ is now a mass of dense fibrous adhesions which only a cholecystectomy can relieve. As a result of the inflammation, adhesions may form rapidly and the passage of gas and feces arrested for the time, closely simulating ileus, which is not an impossible complication. In empyema of the gall-bladder the septic symptoms are prominent and continuous.

Probably chronic appendicitis is the cause of the infection that leads to the catarrhal cholecystitis which produces the gallstones. This result seems very plausible when we remember that the venous blood of the appendix and this portion of the cecum is drained directly into the portal circulation.

DIFFERENTIAL DIAGNOSIS.

The differential diagnosis from appendicitis is many times very difficult to establish, and in cases where the appendix is located high, or the gall-bladder is low, a correct conclusion is quite impossible. The history of the case may be of some assistance, but in the first attack no help can be had from this source. The absence of dulness on percussion in the appendicular region, and the discovery of a tumor with smooth, tense outlines at the margin of the tenth rib, at the outer border of the right rectus muscle, would indicate gall-bladder trouble, as in many of these cases the bladder fills rapidly. In appendicitis rigidity of the rectus is most marked in the lower half; in cholecystitis in the upper half, and the

local and focal points of tenderness are generally correspondingly also located. The temperature and pulse, as a rule, are not so high in appendicitis. In cholecystitis the vomit is more likely to be bile. When the tumor can be felt low down, if it be the gall-bladder, the outlines of the displaced liver can be made out by percussion just above it. The smooth, regular contour of the gall bladder can usually be distinguished from the irregular, ill-defined mass accompanying appendicitis. Suppuration takes place earlier in appendicitis, and can usually be determined with reasonable accuracy by the blood count.

In kidney lesions the induration is more deeply situated and the extreme superficial sensitiveness is not present. The temperature does not rise so suddenly nor go so high as in gall-bladder affections. The induration does not extend so high in the abdomen, and can usually be separated from the margin of the ribs. When a tumor is discernible, it is anterior to a line drawn from the anterior axillary fold to the anterior superior spine of the ilium; whereas in kidney lesions the tumor would be posterior to this line. There might be a history of renal calculi with pains referred to the hypogastric region and to the urethra, with frequent urination and the passage of calculi. In pyonephrosis there would be septic symptoms, with pus, and perhaps albumin in the urine. In gastralgia and intercostal neuralgia there would be no tumor, no tenderness of importance, and no temperature.

Infection by the typhoid bacillus during the course of, or shortly following, an attack of this disease frequently takes place, or the infection may become active early and be a complication of typhoid fever. When the infection is active during the course of the fever, we suspect an aggravation or a relapse of this trouble, but on examination of the region of the gall-bladder we will be able to find physical manifestations of this trouble. Jaundice is less likely to develop here than when the disease is caused by other infections, for the reason that in typhoid fever the secretion of bile is usually greatly diminished because of the involvement of the parenchyma of the liver in the degenerative changes of this disease. The presence of the typhoid bacillus in the gall-bladder may account for many of the relapses of this disease, for an increase of food during convalescence, by causing an unusual amount of bile to flow into the bowel, might cause a reinfection of the system through the intestines.

In a malarial fever we will find an enlarged spleen accompanying, and without enlargement of the liver. In children suffering from malarial infection no hepatic lesion can be found; but in cholecystitis, and cholangitis especially, a considerable enlargement is usually present. In malaria the fever is intermitting, while in liver affections it is most generally remitting.

TREATMENT.

The medical treatment of these cases is simple and not very extensive. In the acute form of cholecystitis, cholagogues should be administered early. A small dose of calomel, one grain with two grains of extract of henbane at bedtime, followed next morning by two or three drams of Carlsbad salts in one-half pint of warm water, is a very good aperient;

followed by a small dose of ipecacuanha, one-eighth to one-quarter grain, three times a day is frequently very efficient. Antiphlogistic remedies and the application of moist heat to the abdomen in the form of turpentine stupes is, in most cases, sufficient to restore the patient to health within a fortnight. In the subacute and chronic forms a more systematic use of the cholagogues should be made, and usually more benefit will be derived by changing the remedy occasionally than can be had by the continuous administration of any one of them. Perhaps one of the best treatments consists of giving one grain of calomel with four grains of compound rhubarb every night, or alternate nights, at bedtime, and two drams of Carlsbad salts in a tumblerfull of hot water the next morning. As a change we may give two grains of euonymin, or one-fourth grain of podophylin, or three grains of iridin in place of the calomel. A dose of castor oil once or twice a week in place of the salts will be found grateful to the intestinal tract. Fifteen grains of sodium salicylate, with ten grains of sodium bicarbonate in four ounces of water, three times a day, continued for a considerable time, will increase the flow of the bile and render it more fluid. Accompanying the administration of the cholagogues, which remove large quantities of water from the system, the patient should be instructed to drink freely of some alkaline mineral water, such as Carlsbad or Vichy, or if these cannot be had a good substitute, and one almost equally effective, is made by dissolving twenty grains of sodium bicarbonate in one pint of water, this to be taken three times a day, before lunch, before dinner, and at bedtime. Of equal importance with the stimulation of the flow of bile is the removal of the decomposing feces, thus relieving the flatulent distention and preventing possible blood contamination, hence the necessity for the use of an intestinal stimulant in combination with the cholagogues. To counteract the putrefactive changes which result from the absence of bile in the intestines, and the diarrhea which frequently accompanies this condition, it will be well to give a few drops of creosote or guaiacol in a little milk three times a day, after meals. When, after the cholagogues have been used for some time, the bile is mixed with considerable mucus, giving evidence of the catarrhal state of the bile passages, nitrate of silver given in pill form, one-quarter grain three times a day, will prove to be very beneficial.

In cases that do not yield to medical treatment within a reasonable time, recourse should be had to operative procedures. When septic symptoms have developed, to leave the patient in the grasp of the disease and to the processes of Nature is but to court disaster. Repeated attacks of biliary disease mean that repeated advances are being made on the patient's tissues and vitality. The many attacks which are recovered from without operative interference form the bait that lures many others to a fatal issue of the disease. The profession, and much less the laity, has not succeeded in measuring the individual vitality which is the explanation of so many recoveries, and the demise of so many others who were apparently no more seriously ill; but there is sure to come a time when the attacking force will prove to be stronger than the resisting

powers, when pathology will supplant physiology, and life must yield to the progress of the disease; when operative interference, if employed sufficiently early, would perhaps have brought about a different termination, for while there is sufficient vitality to recover from repeated attacks of disease, it is also sufficient to withstand the shock of operative procedures, and when it succumbs to such shock it is conclusive evidence that operation had been too long delayed, and that the same results would have been the inevitable and early termination without such intervention.

Drainage to relieve the system of the toxins or infection which are active therein, and have separated the patient from his heritage of health, is the great desideratum in the treatment of these cases, and until medicine can do this as thoroughly and safely as can surgery, it can not lay claim to preference in the treatment. The condition of the patient at the commencement of the operation must to a great extent dictate the course of procedure. In acute empyema of the gall bladder, or acute obstruction of the cystic duct, whether catarrhal or from calculi, cholecystotomy will generally be the operation of choice. When the trouble has reached the stage of gangrene of the gall-bladder, or chronic suppuration, or fibrous contraction of its walls, cystectomy offers the best and safest means of relief. When the septic state is profound and the vitality is too low to withstand the shock of the complete operation, a cholecystomy with drainage is all that can be done primarily, completing the work when sufficient reaction has taken place to render the procedure not more than ordinarily hazardous. In suppurative cholangitis and obstruction of the common duct, drainage of the ducts as well as of the bladder will be necessary. Adhesions of the gall bladder to the stomach and the intestines, which are caused by the numerous acute exacerbations, will cause very distressing symptoms, such as sensitiveness and distress in the epigastric region, produced by a consciousness of the normal peristaltic action, soreness on pressure, neuralgic pains, bloating, bilious attacks—so-called—and no doubt in many cases by the interference with the muscular motility of the stomach from the direct cause of gastric ulcer and carcinoma. Obstruction of the common duct may cause the bile to flow into the pancreatic duct, carrying with it infection, and thus producing a pancreatitis; or we may get the same results merely by pressure of a stone on the pancreatic duct, thus obstructing the outlet of the pancreatic secretions without the bile entering the duct.

Operations are extremely hazardous in cases of deep and long-continued icterus—here the administration of calcium chlorid in ten grain dose every four hours for a day or two, by its action on the blood, may be of some benefit.

THE OPERATIVE TREATMENT IN FRACTURES PRESENTING OBSTACLES TO REDUCTION.*

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CHICAGO.

In selecting a subject for presentation on this occasion none seemed more appropriate than the operative treatment of fractures involving the long bones. The subject is an important one, but lacks the prominence long established for many other less rational and justifiable surgical operations. That fractures generally offer the greatest possibilities for error in diagnosis and mistakes in therapeutic selection and application no one will deny.

Passing in review the progress which surgery has made in many branches during the last few years, one is able to gather at the same time abundant proof that fractures have not been as thoroughly and systematically studied as might be expected. If this in retrospect is true of the question as a whole, then in asking your attention to that part of it which forms a basis for this argument no apology is needed except for the manner of its presentation. There is no intention or thought of adding anything new or original in this paper, but to revive, if possible, interest in a subject of much importance to the surgeon and emphasize, as a result of the experience of others, and of a limited personal one, a few of its most vital features.

The treatment of fractures is to-day practically the same in many particulars as it was twenty or more years ago. Dupuytren's split is still used and recommended by some in Pott's fracture as it was by the older surgeons. Sayre's method of treating a fractured clavicle and the Velpeau and DeSault bandages are still regarded as ideal treatment of this injury, and will frequently show to the close observer the same lack of efficiency now that they should have shown then. There is no desire to convey the impression that the devices mentioned are wholly inadequate under all circumstances, but that they are in the majority of cases of practically no value. The demand for better results in unopen fractures is constantly growing, and that actual improvement is being made in the hands of some surgeons in this and in other countries a review of the literature will show.

In 1893 Arbuthnot Lane began the systematic wiring of the bones in subcutaneous fractures, and in an excellent article[1] published later set forth the indications for the operation. The monographs of Allis,[2] McCurdy,[3] Bird[4] and Bickham[5] are worthy efforts and deal extensively with the personal experiences of the authors. The work of Konig[6] and Roth-

* Read before the Annual Meeting of the Illinois State Medical Society, at Springfield, May, 1906.

1. Lane, Arbuthnot: Transactions of Clinical Society, 1894.
2. Allis, O. H.: Annals of Surgery, June, 1897.
3. McCurdy, Leroy: New York Med. Journal, April 19, 1904.
4. Bird, Golding: Practitioner, August, 1901.
5. Bickham, W. S.: Post. Grad., N. Y., March, 1905.
6. Konig, Fritz: Arch. f. Klin. Chirurgie, vol. lxxvi, p. 725.

child,[7] Kocher[8] and of Helferisch[9] are historical and contain the best that has been written on the subject. The direct fixation of broken bone fragments is, however, an old procedure. VonGurlt collected several cases of bone wiring in 1862, and Rodgers performed the operation as early as 1825. Probably the most notable of the earlier papers was a memoir by Roux in 1894 on bone suture in fractures. He advocated the method particularly in fractures of the tibia, and exhibited patients in the same year who were able to walk in four weeks after the operation. Although indorsed by as conservative a body as the German Congress of Surgeons in 1902, the wiring of subcutaneous fractures failed to provide for the procedure a unanimity of opinion among surgeons. The operation has been severely condemned by Marmaduke Shield, as it was formerly by Trendelenburg, Bardenheur and others. The arguments opposing the operative treatment seem, however, more like a desire to cling to antiquated notions than substantial reasons against the operation. That improved methods of managing difficult fractures are much needed and recognized by every one whose attention and time have been devoted to the question is a self-evident fact.

Fick and other embryologists have shown the influence of pressure on the contour and shape of joint structures. Surgeons have long recognized that pressure, when exerted abnormally in degree or direction, such as is occasioned by altering the direction of the long axis of a bone as in malunion following a fracture, will change in appearance all the structures entering into the formation of adjacent joints. Lane, while teaching anatomy, was led to some observations in this regard of great interest; the large number of badly united fractures of the bones of the thigh and leg which he encountered enabled him to study in detail the great changes in shape of the knee and ankle joints. The joints immediately below the deformity always showed striking abnormalities as regards form, which included the joint ends of the bones as well as the soft parts, showing, in other words, a direct relationship between the forms of articular surfaces and the pressure exerted upon them.

The literature is not without evidence that some have been and are now making use of radical measures in some instances wholly unjustifiable, and that this unfortunate error had much to do with creating confusion and opposition on the part of those whose objections have been raised against the operation. It is plain that cases without complications, obstacles to or difficulties in reduction have been needlessly subjected to operative treatment, and that such measures have been ignored or not employed at all in the really difficult cases.

With results thus obtained one can not express surprise when reviewing the statistics of Scudder recently quoted by Kelley,[10] who said that in fractures of the hip results were poor in 80 per cent. of the cases, and that in fractures of the thigh functionally good results were obtained in

7. Rothchild: Brun's Beitr. zur Klin. Chir. vol. xxix.
8. Kocher: Beitrage zur Kenntriss einiger prastisch wichter Fractuforum Basel u. Leipzig. 1896.
9. Schmann's Hand Atlas, vol. viii. 5th ed., 1901.
10. Kelley: Journal A. M. A., Jan. 13, 1906.

children only, and that in fractures of the leg in adults poor results were seen in 60 per cent. of all the cases. Richardson[11] has recently said, "That surgeons of the highest skill feel more anxiety in the treatment of fractures than in any other injury, and that few can, without humiliation, review their results."

This paper deals with such cases as come strictly under the title, and, while radical measures are urged in their management, just as strong emphasis is raised against this treatment in cases without the indications of those not properly belonging to this category. Indeed, the operative treatment in the former class of cases is just as imperative as that which removes an offending foreign body, drains an abscess or reunites a divided nerve trunk. Moreover, the operation itself, if properly performed, is as free from danger as are these procedures. As already intimated, the frequency of the operation in some quarters can scarcely be commended, but this fact alone will aid greatly in demonstrating its safety.

Powers collected 711 cases of patella wiring with a mortality of 1.4 per cent. Golding Bird, in all his cases, never had an infection. Notzel[12] reports 34 cases and Konig 20 cases with like results.

No particular fracture will always exhibit indications for the operative treatment, and the advice to this effect given by Lane regarding a Pott's fracture, for instance, is certainly unwise and mistaken judgment. Pott's, as almost any other fracture, may call for extremely slight manipulation in effecting its reduction and require very simple means in its treatment. Such has been my experience with this fracture, and observation and inquiry have left no doubt that it corresponds in like manner to the experience of a large number of other surgeons.

INDICATIONS FOR THE OPERATION.

The indications for the operative treatment should be easily and quickly determined; an earnest effort should always be made to properly interpret the nature of the injury and in event of failure to establish the proper relation between the broken ends of the bones, and to so retain them, should constitute valid reasons for radical interference. It may not, and most likely will rarely be possible to ascertain, previous to operation, the precise obstacle to reduction; it will, however, be safe to suspect that interposed soft structures will, in the large majority of the cases, eventually prove to be the opposing factor. The peculiar shape of the fracture itself, or possibly, as strongly emphasized by Lane, blood-clot may occasionally be the only obstacle in the way. As of great importance as is the *x*-ray in the study and diagnosis of fractures, it can not be relied on as an aid to the proper course to pursue in the treatment of this particular injury. Indeed, Scudder well says, "Though we believe the skiagraph is of great assistance in most fractures, it must be confessed that the cases where it leads us to modify the treatment to any considerable extent are few in number."

In the matter of classification in fractures much is yet desired. Con-

11. Richardson, M.: Journal A. M. A., Oct. 7, 1905.
12. Notzel: German Congress, 1904, rep. in Centralblatt f. Chir., No. 27, p. 19.

fusion has, doubtless, arisen in the use of such terms as "open" and "compound," "simple" and "closed," none of which impart definite information as to the nature or extent of the injury. In a so-called simple fracture, every complication incident to such a lesion may be present, while a compound fracture may fail to exhibit more than a simple bone lesion and a small skin opening.

The surgical indications in the two varieties of injuries described would not always be found in seeking this knowledge in the average physician's library. It would appear, therefore, that all fractures, whether they be open or unopen, presenting no complications, without a barrier to reduction and exhibiting ease or no trouble in holding them reduced, would be best dealt with by conservative or non-operative measures. On the contrary, all other fractures of whatever variety not yielding to ordinary efforts in restoring the normal alignment of the bones should be operated on.

A clear distinction, clinically and pathologically, between a compound fracture purposely and one accidentally made should always be borne in mind, for the sole reason that they do not possess the slightest similarity to each other. Indeed, they are so diametrically opposite that reference to it is not out of place here. That procedure which intentionally establishes communication with a fracture is done under the guidance of modernized surgical rules. The patient, surgeon, assistants and every object concerned or used in such an undertaking receive the most careful preoperative consideration that nothing may transpire to mar the performance of the operation, nor to lessen confidence in its final satisfactory outcome.

A "compound" fracture in the common acceptance of the term is an accidental occurrence, embodying all the conditions and influences detrimental to primary wound healing and contributing almost wholly to dangerous sequelæ, which are so often responsible for the loss of life and limb. This is an accident in which the soft parts are frequently extensively and severely damaged, and in which the infectious material of all descriptions may be carried to places so remote that at the operation its presence is overlooked and its removal impossible.

As a matter of fact, experience has shown that it is as safe to open a joint or operate on a fracture as it is to do likewise with the peritoneum. If the latter were invaded in the same manner, and under the same circumstances that the medulla of bone and surrounding soft structures are, either by operation or by accident, the two clinical pictures resulting would not exhibit, in some particulars, material difference. Experience has shown that when all precautionary measures have been thoroughly considered and taken that joint operations and bone operations are just as safe and followed by the same short and satisfactory convalescence as are properly performed laparotomies.

TECHNIC OF THE OPERATION.

As regards the time which should elapse between the injury and the operation, no hard and fast rules can be followed. Circumstances will

guide the surgeon generally and will, I think, incline him, with increasing experience, to perform the operation as soon after injury as possible. When all efforts at reposition of the fractured bone ends prove futile, proper preparatory steps should be taken for the operation. This should be carried into effect systematically and carefully, even to the smallest detail. When the preoperative requirements are completed, the patient is anesthetized and the injured extremity is placed comfortably upon some very substantial support. The skin surface having again been cleansed in the usual manner, Esmarch's constrictor is omitted, and the location of the incision is now determined. This is important because disregard of scar location may prove a fruitful source of subsequent discomfort and pain from undue pressure. As a general rule, the incision should be parallel with the long axis of the bone, but never directly over the seat of fracture; but slightly to one side and should always be made of such length as will afford ample and easy access to the seat of trouble. When the soft parts are retracted, all hemorrhage controlled and blood-clots removed, the factor which made the operative interference necessary will now reveal itself. It will almost without exception prove to be fragments of torn and lacerated muscle, aponeurosis or other tissue, tightly wedged in the gap between the broken ends of the bone. These should be carefully displaced or cut away, when success will usually follow the first attempt at reduction. The condition of the periosteum should now receive attention and all loose platelets or pieces of bone in the vicinity of the fracture area be removed. The importance of this step is well described and brought out by a recent article by Carl Beck[13] of New York, in which he describes interference with subsequent muscular action should these fragments of bone develop or grow in out-of-the-way places.

The shape or peculiarity of the bone lesion itself may require some attention, but this is exceptional; the periosteum can now be closed over the fracture, and over this the soft parts may be brought together with catgut sutures, and the skin incision closed without drainage. It is almost needless to add that firm support should be given to the extremity by trusty assistants throughout till the fixation appliances are in place. The limb may now be suspended or so placed that any and all muscular contractions may be as completely annihilated as possible. Cases, however, will be met with where the above steps will not be sufficient to enable the operator to reduce the fracture; the shape or type of the bone injury requiring alteration by chiseling or otherwise. Extreme flexion of the limb or unusual posture may be called for and even some of the many methods of internal fixation may be required to accurately hold the bone reduced.

The anesthetic will abolish practically all muscular contractions if the operation is performed shortly after the accident; but if delayed for a few days, a factor not always easily dealt with is the "physiological shrinkage" of the soft tissues so well described by Bird. Blood, as an obstacle to reduction, has never, as contended by Lane, been noted in any of the cases operated on by me. The use of Esmarch's bandage enables

13. Beck, Carl: Surg. Gynecol. and Obstet., March, 1906.

one to expedite the operation by rendering the field bloodless, but the inevitable capillary oozing which always follows its application renders this step of doubtful expediency. This objection may be overcome if the use of the bandage is imperative by subsequent extreme elevation of the injured extremity.

The means of directly fixing the bone fragments is best done by one of the many forms of suture now in use. Considerable thought has been given to this particular point and most all the methods have ardent advocates. McCurdy favors iron wire, Golding Bird uses and urges the superior merits of silver wire, while Lane uses neither and prefers screws to any suture material or other form of internal fixation. It is without question that most of the methods are worthy of consideration, and that none of them are entirely unreliable. Good results have followed the use of all of them, and when otherwise, factors other than the kind of suture material, in all probability, would afford the necessary explanation. Catgut sutures seem to possess the widest range of applicability by Bickham and those who have used the method most extensively. It is, however, not the best practice to leave in the wound any foreign material unless the indications can not otherwise be met. The opinion of Stimpson[14] regarding this point is founded on a wide experience. He thinks that non-absorbable suture material may have a marked and detrimental effect on bone union even when there is primary wound healing. In many of his cases the secondary operations revealed to view thinned and pointed bone ends, widely separated, with no attempt at union. This occurred in one of my cases, and is such a good example of the condition referred to that a brief account is here given.

A young man, 22 years old, received an injury which fractured his right ulna in its middle third and also fractured the radius slightly above this point. The patient was seen the following day and repeated efforts, with and without anesthesia, resulted in complete failure to effect a reduction of the ulnar fracture. The difficulty encountered was not made clear by the fluoroscope, although the bone ends could be plainly seen. After exposing the seat of the fracture to view the utter impossibility of having otherwise managed the condition was made plain and unmistakable. The somewhat oblique fracture of the ulna showed no difficulty in replacement, after having cleared the ends of the bones. Not the slightest infection that could be determined clinically occurred and the wound healed throughout by primary union. No callus formed, and now, eight months after the operation, the fracture is ununited. The ends of the bones are visible by the fluoroscope and show the condition so well depicted by Stimpson. The wire in this case can be plainly seen and remains as placed at the operation.

If internal fixation is really required in a given case, it will be quite unnecessary, as McCurdy has demonstrated, to drill the holes through the entire ends of the bones. This surgeon used two wires, passing them from the outside of the bone into and out of the medullary canal, which

14. Stimpson, L. A.: Fractures and Dislocations.

does not require the projection of the ends of the bone out through the incision in the soft tissues. This latter step is unwarranted, as it does not facilitate the operation, and, besides, strips the periosteum away from the bone to a dangerous degree, leading often to nutritional disturbances of the bones and increases the possibilities of infection.

In accordance with the technic just described I have operated for irreducible fracture of the clavicle seven times, the femur twice, humerus once and the tibia three times. Wire sutures were made use of in all the cases but two, and infection occurred in none of them. The opposition to easy reduction was found in every case to be due to tissues of some soft structure impinged between the fractured bones. Good results were obtained in all the cases except in the one before mentioned, and in none of them was massage or early passive motion ever deemed necessary.

The operative treatment of fractures as herein set forth, necessarily brief and incomplete in a communication of this kind, possesses one very distinctive feature hitherto but little noticed. It has not, in fact, been my privilege to note in text-book or elsewhere any reference to it whatever and was first forcibly brought to my mind in the experience of cases operated on. Reference is made to the much lauded early massage and passive motion, deemed so beneficial and useful by some and carried to such an extreme degree, especially by French surgeons. The indications for this measure in some instances and the advantages to be gained by its discretionary and intelligent use must be admitted. On the other hand, it does not tax the imagination to realize its prejudicial effect when used injudiciously or viewed in the light of a universal necessity.

As a general proposition its office is to promote the absorption of extravasated blood and likewise all inflammatory products; or, in other words, to establish a prompt, complete and quick restoration of the normal function and usefulness of the injured extremity. It should require no argument to convince the most skeptical that if fractures occurred without subcutaneous hemorrhage or effusion into the tendon sheaths and other soft tissues, and if practically no inflammatory deposits occurred, and the type of fracture was simple and easily reducible, that no form of massage or passive motion would ever be indicated. Such treatment would belong to "meddlesome surgery," and in every instance would be positively harmful. But as a large majority of the fractures, especially the irreducible ones, exhibit all the factors before mentioned, and this often to a marked degree, they are dealt with most perfectly and satisfactorily by that method which removes or eliminates these conditions and best remedies the bone lesion, namely, operation. By this step only can an absolute diagnosis be made and the fracture perfectly and accurately reduced. Effusions of all kinds can be removed and drained away, while with sutures damaged tissues may be repaired and all the so-called dead spaces, which might otherwise prove a source of trouble, may be carefully obliterated. A much firmer dressing than would be otherwise possible may now be applied, and, no fluids having been left in the wound, no swelling occurs and few or no adhesions develop to call for any form of massage or to interfere with the future usefulness of the extremity.

There will be in all cases, however, under the most favorable circumstances, some impairment of motion, but this is slight and of short duration. Moreover, patients may be spared the pain and discomfort incident to early massage, a measure of doubtful utility except in isolated cases.

If in the few ideas expressed in this paper regarding the operative treatment in the type of fractures named, facts have not been wrongly construed, three rather definite conclusions may be drawn:

(1) That the unsatisfactory results hitherto obtained in practically all such cases as here described, when treated conservatively, will not meet the continued approval of the surgeons familiar with modern surgical technic.

(2) That the indications for radical treatment are positive and certain and that the safety of the procedure is unquestioned.

(3) That the operation offers in this class of cases the only reliable means of arriving at a correct diagnosis, the only bases upon which rational and scientific treatment may be enunciated.

PATHOLOGY OF VESICAL TUMORS.*

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CHICAGO.

Fenwick's conclusions concerning the location of single vesical tumors found in the museums of Great Britain are as follows:

Villous papilloma.—1. Growths that are single are generally (86 per cent.) found in the inferior zone. 2. They spring from the margins of the trigone. 3. They are found at the right ureteral orifice in 43 per cent., at the left ureteral orifice in 26 per cent., and on the interureteral bar in 10 per cent. of the cases. 4. They are generally pedunculated or tend to become pedunculated in the proportion of 2 to 1 (43 per cent. are pedunculated, 20 per cent. are subsessile, 33 per cent. are sessile).

Fibromata.—Ninety per cent. are at the ureteral orifices.

Sarcoma.—The trigone is rarely the site of the disease in the adult. The favorite spot is the posterior wall, either just behind the right or the left ureteral orifice. They are usually sessile (10 per cent. possessed pedicles).

Carcinoma.—The right and left ureteral orifices are rarely the origin of carcinoma, though of course they may and generally do become implicated by extension. The posterior wall in the middle zone is the part most often affected, i. e., 63 per cent.; next to this comes the trigone itself, 20 per cent.

As regards the three zones to become affected by single cancerous growths, the following statistics are of importance to the cystoscopist. They are estimated by the author from 100 cases of carcinoma vesical: Upper zone, 7.2 per cent.; upper and middle zone, 7.2 per cent.; middle zone, 22.5 per cent.; middle and lower zone, 17.5 per cent.; lower zone,

* Read at joint meeting of the Chicago Urological and Chicago Medical Societies, Dec. 19, 1906.

42.5 per cent.; The upper: middle: lower zone:: 1:3:6 as regards liability to cancer. The above statements cover the location of vesical tumors so completely that they have been used without any change. All observers unite upon the trigone and near the ureteral orifices as the most frequent sight for primary tumor development. Davis states that second tumors usually develop upon the posterior wall where it would come in contact with the first tumor at the base when the bladder was empty, thus corroborating Albarran's theory of propagation by contact.

Frequency.—Gurtl found in .39 per cent. and Küster in .76 per cent. of all tumors; Küster, Ultzmann and Burghardt in 3 per cent. of all cases of urinary diseases. Females are affected less often than males, 25 per cent. (Clado), 22.03 per cent. (Albarran), 33 per cent. (Ultzmann), and 20 per cent. (Tuffier) of all cases. They are found in all ages, but mostly between 40 to 60, childhood showing more of connective tissue group, myxoma and sarcoma, while the later years show more of epithelial tumors.

Etiology.—Heredity has no part in the etiology of vesical tumors. A continuous active irritation of the bladder is undoubtedly a causative factor. The appearance of bladder tumors after lithiasis, the transformation of chronic cystitis into epithelioma are arguments used by Zuckerkandl who states it is certain that the bladder mucous membrane under continuous irritation undergoes proliferation whereby the villous growths developed present histological resemblances to tumors. The epithelium of the base is predisposed to proliferation under physiological conditions, forming folds and cysts more readily than the rest of the bladder. It is only a step from such structures to papilloma formations and epithelial proliferation is found surrounding papillary tumors. Parasitic causes, as Bilharzia infection and chemical irritation as shown by the undoubted predisposition of aniline workers to bladder tumors certainly add weight to the irritation theory in which an increasing element of the profession believes rests the cause of most tumors. Most cases lack positive and satisfactory evidence as to the direct cause of the tumor growth.

Pathology.—Anatomically the bladder tumors are divided into those primary in the organ and those that are secondary to tumors in the prostate, rectum or genitalia. Clinically they are called benign and malignant, the latter showing deeper involvement of the layers of the bladder wall and metastases. The benign form includes papilloma, adenoma, fibroma and myoma, and the malignant includes carcinoma, sarcoma and myxoma. Change from benign to malignant form has been seen in the bladder. Their gross anatomy classifies as pedicled, broad based and infiltrating and their external peculiarities as papillary, hard, scirrhus and medullary in type. Vesical tumors are usually divided according to their histological structure. This gives the nature of the tumor, its point of origin and presents the best basis for clinical opinion in each case. The epithelial and fibro-epithelial include papilloma, adenoma, papillary and other carcinoma: those based upon the cell elements of connective tissue include sarcoma and fibroma. Transition from one form to another or mixed types is frequently seen.

Fibro-epithelial tumors, papilloma or villous polyp of Küster, fibroma papillare of Virchow, fimbriated papilloma of Thompson are villoused tumors resting on the mucous membrane or connected with it by a pedicle; sometimes bearing almost feathery, extraordinarily pliable, long floating projections; sometimes bearing hard, short projections covered with nodules. All papillary tumors do not extend thus from the surface; some are flat circumscribed diffuse papillary structures where the papillæ are raised in rows from the muscle layers. All these are proven to be from the mucous membrane by traction which raises only those layers of the bladder walls.

David modifying Küster's classification which is similar to Albarran's and based upon the three histological elements of the bladder walls divides vesical tumors as follows:

1. *Epithelial Group.*—Papilloma, Adenoma, Carcinoma and Cysts.
2. *Connective tissue Group.*—Sarcoma, Fibroma, Myxoma and Angioma.
3. *Muscle group.*—Myoma.

His microscopical examination of 28 specimens showed 15 carcinoma, 10 papilloma, 2 sarcoma and 1 myoma. Nitze, Küster and Virchow place carcinoma in the connective tissue group, but it is differentiated microscopically by the changed or abnormal relations of the epithelia and connective tissue, whereby the former penetrate into the bladder walls, hence Davis classifies it as an epithelial tumor.

The papillomata are from single isolated spots to as large as the fist, filling the bladder. Sometimes they are single, sometimes multiple, the latter in over one-fourth of the cases Most show one large tumor with the smaller ones grouped near and usually connected with it. Usually the papillary tumor is located on the base of the bladder near one or the other of the ureters or the mouth of the urethra and may completely destroy or distort them; rarely found on the sides or summit of the bladder walls. Microscopically the papillomata of the bladder consist of connective tissue and epithelial cells: both elements participating in the tumor growth and always remaining in the same relation to each other. The scaffold of all papillomata is a connective tissue system, starting from a root and directly joined with the stroma of the mucous membrane. The scaffold is not rich in cells but is luxuriantly vascularized. The pedicle, where the connective tissue is compactly joined, contains numerous large blood vessels coming from the submucosa of the mucous membrane. These vessels ramify with the scaffold of the connective tissue so that every villi bears its own artery in its center, forming a loop at its clubbed end. The pedicle stroma, like the muscle layers of the bladder, contains elastic and muscle fibers. Numerous lymph follicles of typical structure with germinating center are by no means infrequent in the hard pedicles of papillary tumors. The entire connective tissue structure is covered on its outer surface with a thickened epithelium which is continuous at the base of the tumor with the bordering mucous membrane.

Davis defines papilloma as a pedunculated papillary or villous tumor with a branching connective tissue stalk containing blood vessels and occasionally smooth muscle fibers covered with one or more epithelial cell

layers, but without epithelial infiltration of the bladder walls; the epithelial elements are the essential ones but the proportion of the epithelial and connective tissue elements may vary greatly. The feathery branches (villi) consist of a delicate connective tissue strand, which surrounds the central artery and is covered with thick epithelium.

There is a marked tendency of bladder tumors to be polypoid according to Hektoen-Riesman. The soft or villous papilloma, a pedunculated or sessile growth being a rather common form, is most frequently found in the trigone of the bladder. It may be small and slender or a large cauliflower-like mass. The individual villus consists of a capillary loop, covered with a small amount of connective tissue and several layers of cylindrical epithelial cells, resembling the arrangement of the epithelium of the bladder. They sometimes occupy an extensive area along the surface of the urinary tract. Anatomically these tumors are benign but have a tendency to recur after removal and occasionally seem to become malignant or carcinomatous in type while they also may ulcerate.

Schmaus states that papillomata never have the epithelial cell masses below the level of the epithelium.

With a low power we can differentiate papilloma of two types; one consists chiefly of a stroma with short projections only and the other in which the chief mass of the tumor consists of long fringelike villi, the latter frequently having branches broken or anastomosed irregularly. We may find the villi in short round epithelial masses around the connective tissue axis. Complete coalescence of the papillæ of the entire tumor so changes its consistence that it appears a solid tumor, but examination of a section shows it to be a papilloma with short villi grown together, thus its histological character as fibropapilloma is evident.

Tumor-like prominent papillæ often raise out of the mucosa, neighboring ones being of equal size and the entire structure being sharply bordered by bladder epithelia.

The villous epithelia change at the base of the tumor into that of the bordering mucous membrane, hence the papilloma epithelia present different layers. The deeper stroma bordering cells are more cylindrical and are arranged radial to the axis of the villi. Like the bladder epithelium the outer layer appears of large irregular polygonal cells whose smooth surface is slightly clouded. In these cells we differentiate a superficial layer appearing in the form of a wide border and a second granular layer in which are more nuclei. This broad-edged surface epithelia undoubtedly cause the cementing of the villi; the epithelia coalesce one with another, where the normal coat is absent, while at other places the normal cells remain. Like the mucosa of the bladder the stroma and epithelium of the papilloma is subject to known changes of pathological kinds. Sometimes the stroma, when the bladder is infected, is also distorted, and we find it richly infiltrated with many masses of round cells and markedly vascularized. The infiltration often continues into the villi. The villous epithelia contain in almost all cases like the bladder vacuoles or spaces enclosing colloid masses and cell elements. Also cystic changes have been observed in papillary tumors. The tender villous tissue is often injured by the urine currents, removing the epithelia until the arter-

ies are exposed or opened or the villi torn off. Edema of the stroma of the villi is caused by the splitting of the axis, giving a distended condition. Complete severing of the circulation in the axis of the villi may cause necrosis, and incrustation with salts of the urine also occurs.

Carcinomata of the bladder are epithelial tumors in which the epithelium and connective tissue do not remain in normal relation with each other, but develop separately, the epithelia growing irregularly into the surrounding tissue and by breaking through into the blood and lymph streams the cells are carried to distant locations and form new or metastatic tumor structures. They appear as papillary tumors, cauliflower growths, globular tumors, as inlaid hard places in the mucous membrane, and finally with almost no visible signs as an infiltrating form.

Squamous epithelioma is the usual type of malignant epithelial growths and the infiltrating form causes marked thickening of the walls of the bladder. The malignant tumors differ primarily from the benign through the penetration of the epithelial cells into and the destruction of the underlying layers. Primary carcinoma of the bladder is rare, most being secondary from the neighboring tissues, in man from the prostate or rectum and in woman from the rectum, uterus or vagina.

Opinions differ as to what constitutes a papillary carcinoma of the bladder, Davis quoting Rokitansky as holding that all papillary epithelial tumors of the bladder are malignant; Virchow was the first to emphasize the existence of benign papillary fibromata; Albarran defining as benign papillomata and malignant epitheliomata the first, if normal bladder cells are reproduced, and the second, if the cells are atypical; while Orth, Ziegler and others make epithelial infiltration of the bladder walls and metastases the requisites for carcinoma here as elsewhere. Davis further states that benign papillomata may undergo carcinomatous degeneration so that a stage is present in this process when it is difficult to tell whether benign or malignant. The bladder wall may be infiltrated in one of two tumors which are macroscopically and microscopically indistinguishable, hence the infiltration of the underlying bladder wall should be the test of malignancy rather than the cellular arrangement and character in the tumor itself.

Adenoma of the bladder consists of proliferated epithelia in the shape of tubes and a connective tissue scaffold. The bladder epithelia have a remarkable tendency to proliferation whereby single or branched tubes are formed. If hyperplasia of the mucous membrane accompanies this we get the tumor growth on the lining of the bladder. This growth is more frequent in men than in women, and from 40 to 60 years of age. Most are found at the base of the bladder, walnut-sized, usually solitary, pedicled or broad based, its surface smooth or rough, or it may be with villi. The tubes are lined with cylindrical epithelia which sometimes contain a secretion.

Sarcoma is more common in children and young persons, as only one-third of the cases reported were past 50 years of age. About one-third of the cases were in females. Macroscopically the sarcomata show no characteristic peculiarity, they may be voluminous, single or multiple, while all gradations from hard to soft consistency may be shown. They may be

pedicled, broad based or infiltrated. The surface may be smooth or unevenly nodular. All varieties are found, as round or spindle celled, fibro, myo, or alveolar sarcoma, or even small-celled telangiectatic and chondrosarcoma. Küster has reported 5, Hinterstoisser 40, and Albarran 52 cases of sarcoma. Steffen, reporting 32 cases of malignant tumors of the bladder of childhood found them equally divided as to sex. Most arising from the trigone and majority were sarcomata; 13 were round or spindle-celled sarcoma; 8 fibro-sarcoma; 1 lympho-sarcoma; 1 myxo-sarcoma; 8 myxomata, and 1 papilloma. Most were located between the openings of the ureters and the urethra, starting from the mucosa, involving first the epithelial layers and thence the underlying strata; further progress involved the muscle bundles and caused thickening of the entire wall. The normal epithelium covering of early stages later becomes changed into tumor cells. The tumor tissue was very vascular.

Fibromata of the bladder are hard, round, pedicled tumors covered with mucous membrane. True polypoid fibromata are rare: Albarran describes two hard, lobed, pedicled tumors covered with hyperplastic mucous membrane. This covering membrane is sometimes movable, thus permitting shelling-out the sub-mucous fibroma nodules. They are composed of connective tissue and muscle fibers and are sparingly vascularized.

Myoma of the bladder has been reported in 20 cases according to Zuckerkandl. They were equal in both sexes and in appearance and structure similar to the fibroma. Usually most developed toward the lumen of the bladder, though some grew into the paravesical tissue. Some were multiple, almost always sharply outlined and easily removed.

Histologically they are generally composed of smooth muscle fibers as striated myomata are very rare. Softening and necrosis may occur. Dermoid of the bladder has been reported in one case by Thompson, and ovarian dermoids have broken through. A chondroma has also been observed.

We can unite with Davis' conclusions as follows:

1. Stone in the bladder is not an etiological factor of importance in the causation of these tumors.

2. The condition of the underlying bladder wall in regard to epithelial infiltration is the most satisfactory and reliable guide in the determination of the benign or malignant character of papillary epithelial tumors of the bladder.

3. If the foregoing condition is accepted as the differential test of these growths, then will the benign forms, commonly called papillomata, be found to at least equal, if not outnumber, the malignant, the papillary carcinomata.

4. Recurrent epithelial tumors are not necessarily malignant.

BIBLIOGRAPHY.

Davis: Primary Tumors of the Urinary Bladder. Annals of Surgery, xliii, p. 556.
Fenwick: Handbook of Clinical Electric-light Cystoscopy.
Hektoen: American Text-book of Pathology, 1902, p. 999. Hektoen-Riesman.
Schmaus: Grundriss der Pathologischen Anatomie.
Steffen: Die Malignen Geschwülste im Kindesalter, 1905, p. 58.
Zuckerkandl: Geschwulste der Harnblase. Handbuch der Urologie, von Frisch and Zuckerkandl.

THE TREATMENT OF CONGENITAL SYPHILIS IN INFANCY.*

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Hochsinger divides all cases of congenital syphilis into four groups:

1. In the first group belong all syphilitic fetuses which have perished *in utero,* usually before the eighth month. Upon examination these fetuses are found to be free from any skin eruption, though they show severe and diffuse disease of the glandular organs, particularly of the liver and spleen, and very frequently present evidence of syphilitic osteochondritis. These fetuses are often more or less mascerated and are not cases for medical treatment.

2. The second group includes those cases where the product of conception is born shortly before the expiration of pregnancy or it may be born at term. It may be born alive or dead. In either case it shows syphilitic skin affection (papular or bullous syphilides). If the case comes to autopsy one will find macroscopic and microscopic evidence of diffuse inflammatory processes in the visceral glandular organs, particularly in the liver, the kidneys and the lungs. Very often there is evidence of syphilitic osteochondritis at the epiphysis. These infants have a peculiar marantic appearance at birth which should arouse the suspicion of syphilitic infection. The skin is of a greenish-yellow color; the nose is broad and retracted. Snuffling, with difficult nasal breathing, occurs early. The voice is hoarse and in a short time there appears an irritating discharge from the nose. A purulent discharge may occur from the ears.

3. The third group comprises all those infants born with congenital syphilis, though without any syphilitic skin manifestation. Shortly after birth the syphilitic skin and bone manifestations may appear, though visceral changes are not recognizable.

4. The fourth group comprises those infants who are born alive and who present at birth or shortly thereafter visceral and osteochondritic manifestations, though they remain free from skin eruptions.

The symptoms resemble very much those of acquired syphilis in adults, with the exception that the peculiarities of the fetal and infantile organism necessarily modify the course of the disease. In the infant, owing to the delicate structure of the skin, pemphigus is much more common than in adults. At the juncture of epiphysis with the diaphysis of long bones, where the process of growth is going on rapidly, it is not surprising that the syphilitic process should localize and produce osteochondritis. In the most severe cases the epiphysis is separated from the diaphysis, constituting the so-called pseudo-syphilitic paralysis of Parrot.

In congenital as in acquired syphilis all tissues and organs are likely to become affected, the skin as well as the internal organs. In the beginning of the disease there may be mild local lesions, inflammatory in nature. Later on, sclerotic changes are produced. The early con-

* Read before the annual meeting of the Illinois State Medical Society at Springfield, May, 1906.

ditions may heal without leaving a trace. The later condition may be progressive and lead on to the most destructive lesion.

The course of hereditary syphilis may be compared to the acquired. The first month or the first year corresponds to the secondary period of acquired syphilis. After this time the tertiary symptoms may appear. The tertiary symptoms of congenital syphilis may not become apparent for years, or they may remain latent for as long as ten or twenty years, or even longer.

REMEDIES EMPLOYED AND CHOICE OF DRUGS.

Since Neisser, Metschnikoff, Lassar and others have successfully inoculated anthropoid apes with syphilis, the hope of finding a curative serum has been strengthened somewhat, though this still remains among the unsolved problems, and we look into the future for its solution. At present two drugs, mercury and iodin, constitute the remedies for the treatment of syphilis.

Mercury and Its Salts.—For the early manifestations of congenital syphilis mercury is by all means the most dependable drug. Three methods of administration are recommended:

1. Ingestion.
2. Endermic (inunctions, fumigations, baths).
3. Hypodermic (intramuscular, intravenous).

In every form of mercurial treatment, caution must be observed lest the drug be given in excessive doses. If the dose is too large or too long continued, albuminuria or intestinal catarrh may result. Sometimes a severe anemia results, or there may be a general loss of strength which may lead to the most serious results. Cases of mercurial stomach diseases are relatively rare in infants, though Baginski has seen such cases several times. In all cases, however, a careful toilet of the mouth should be insisted upon. The mouths of young children should be washed with a chlorate of potash solution or one of the antiseptic mouth washes. Children who have already erupted teeth should have them kept scrupulously clean. If the teeth are carious they should be filled or extracted.

Ingestion.—This is the method most generally advised in infants. The advocates of this line of treatment are Heubner, Neumann, Lane, Still, Salge and many others.

1. Calomel, in 1/30 to 1/20 grain three times daily. Some of the older writers advise that it be combined with the carbonate of iron. If calomel produces diarrhea it may be combined with tannigen or with small doses of Dover's powders.

2. Hydrargyrum cum creta (gray powder). This preparation is principally used by English physicians. It is especially recommended by Still and Hutchinson. It may be given in one-half to one and a half grain doses three times daily. If there is a tendency to looseness of the bowels, it may also be combined with Dover's powder or with tannigen. In the severer cases, particularly where this preparation is well tolerated, the frequency of administration may be increased so that the powder is given six or seven times a day. Still says that gray powder combined with

aromatic chalk powder, or in the very severe cases, where the most energetic treatment is called for, mercurial inunctions may be employed in addition. He thinks that with such treatment the most severe cases will improve. He can say nothing in favor of the intravenous or intramuscular injection of mercury or the administration of iodin in practice among infants.

3. Hydrargyrum protoiodid, dose 1/12 to 1/14 grain, three times daily. Neumann (Berlin) and many of the French authorities prefer this to all other preparations.

4. Mercurol (a neucleoid of Hg 10 per cent.). Hollen recommends this preparation for internal use in tablet form, the dose being ¼ grain three times daily, and may be increased to 1 grain daily. He thinks it is more readily absorbed and less irritating to the intestinal mucosa than any other mercurial for internal use.

5. Bichlorid of mercury, as liquor hydrargyrum per chloridum (B.P.) has been recommended by Still. He gives 2 minims four times daily for young infants and increases up to 10 minims at 1 year of age. It may be given in milk or in an emulsion of cod liver oil. This method of treatment must be supervised lest an overdose be given. For example, it would hardly be safe for dispensary practice.

6. The oxydulated tannate has been recommended by Lustgarten, quoted by Neumann. The dose is from 1/10 to 1/16 grain four times daily. It is said to be non-irritating and is said to liberate metallic mercury in the stomach.

INUNCTION METHOD.

The latest researches tend to show that but little, if any, mercury is rubbed into the skin. It is believed that this is really an inhalation method, the patient breathes the mercury, which becomes volatilized while it is being rubbed. There can be no doubt that the ointment may be extremely irritating. It may at times produce the most violent reactions of the skin, causing the most intractable cases of dermatitis, and these may directly or indirectly be the cause of a fatal termination. All of us who treat syphilis in infants and who have used the inunction method, I think, are agreed that it is not suitable for young infants, particularly those in whom the skin is tender or broken. On the other hand, in strong and healthy children, particularly after the sixth month of life, when relapses occur, this method of treatment yields good results. In the very severe cases, where a rapid effect is desired, the method may be tried. Neumann (Berlin) recommends the following daily dosage of the ointment: For a child 1 year of age, 0.5 gm.; 2 to 3 years old, 1 gm.; 4 to 6 years old, 1.5 gm.; 7 to 10 years old, 2 gm.; more than 10 years old, 3 gm.

Rotch's method of mercurial inunction consists of using equal parts of oleate of mercury and lanolin. He advises that this be thickly spread on a thin, soft flannel, cut in such a way so as to reach from the ensiform cartilage to the pubes and to extend around the entire abdomen. He believes that, as the baby moves, the ointment is continuously being

rubbed into the skin. The band should be allowed to remain in place for 48 hours. It sould then be removed, the abdomen washed and the band reapplied.

THE CHOICE OF DRUGS FOR INUNCTION.

1. Unguentum hydrargyri.
2. Unguentum hydrargyri ammoniati.
3. Hydrargyrum colloidum. This is an ointment made of colloid mercury, 1 part, and lanolin, 30 parts, and used in doses of 3 dr. each.
4. Calomelol or colloid calomel. This is a grayish powder, 75 per cent. calomel, with 25 per cent. albuminoids. It may be obtained as calomelol Salbe, or as unguentum Heyden, which has an additional 2 per cent. of free mercury.

INJECTION METHOD.

There is a great difference of opinion as to whether this method has any place in practice among young children. Among the warmest advocates of this plan of treatment stands Heubner and Salge. Both of these authors, as has already been said, advise internal treatment in ordinary cases. Salge advises injection treatment in patients with syphilitic pemphigus at birth and with large liver and spleen, showing the involvement of internal organs. In these cases he prefers the injection method, because the amount given is under accurate control and the results are prompt; it causes no gastrointestinal irritation. There have been so many voices raised against the use of this method in infants that it should be employed only in the most severe cases where prompt and most energetic treatment is indicated, such as, for example, severe visceral lesions or brain and meningeal complications.

CHOICE OF DRUGS FOR INJECTION.

1. *Soluble Preparations.*—(a) Bichlorid of mercury: A 2 per cent. solution of bichlorid in a 2 per cent. aqueous solution of sodium chlorid is the one used by Salge, who claims that a symptomatic cure is observed after four injections, 1/30 to 1/16 of a grain. It may be used in 2-1000 solution, injecting 4 to 8 minims every two or three days. It has been advised that such a course of treatment should be continued for four or six weeks. It should be repeated every two or three years or oftener if relapses occur.

Of the insoluble salts, (1) calomel, suspended in glycerin or water; (2) salicylate, suspended in liquid paraffin petrolati; (3) the yellow oxid of mercury, suspended in olive oil or in vaselin oil.

OTHER METHODS OF MERCURIAL TREATMENT.

Calomel fumigations are obsolete for the treatment of this disease. They are difficult to give and have no advantage over other forms of treatment. Sublimate baths (1-20000) may be given at a temperature of 90 to 100 degrees F. and should be given for from 5 to 15 minutes. They are particularly indicated where there are extensive or obstinate skin lesions. They seem also to have a constitutional effect and are highly

prized by some clinicians. They may give rise to irritation and should be avoided if the skin is extensively broken.

TREATMENT WITH IODIN AND ITS PREPARATIONS.

The use of iodin is not indicated at all in the early stages. It is of value in the cases where gummata occur; in short, its usefulness is for the tertiary lesions. Young children bear the iodids very poorly. They interfere with normal development and very often cause a loss of weight. They produce diarrheas and indigestion. The protoiodid already referred to may be used in the early cases where some form of iodin is indicated. The iodid of soda is preferred by many to the iodid of potash, because it is thought to be less irritating. Iodipin has been supposed to be as efficacious as the other iodids. It is said not to produce iodism. Formerly it was suggested to administer iodid of mercury to the nursing mother, or possibly to the wet nurse. In this way it was thought possible to administer the drug to the infant as it was being eliminated by the breast milk. It is doubtful whether mercury is excreted by the mammary bland; but, even if it were, the amount of the dose would be so uncertain that one could hardly depend upon it.

MODES OF TREATMENT.

How long should the treatment be continued? The continuous plan of treatment, where the mercurial is given for a long period of time, was first practiced by Hutchinson. This method is objectionable in that it is difficult to carry it out, and it is thought that the patient becomes less and less susceptible to the therapeutic action of the drug.

2. The expectant method or the symptomatic method consists in giving the patient a course of mercurial treatment for four or five weeks and then awaiting the appearance of new symptoms or relapses.

3. The interrupted method consists simply in giving the patient a course of treatment, then waiting a definite time, for example, six months, then repeating the treatment. To illustrate, Gottheil recommends at least five courses of 20 weeks each during three years.

TREATMENT OF SYMPTOMS.

1. The snuffles. For the snuffles, calomel, 1 part, and sugar, 20 parts, may be prepared as a snuff or as an insufflation. An ointment of the yellow oxid of mercury, 1 gr. to the dram, may be brushed into the nostrils; or the white precipitate ointment, 1 part, and lanolin or vaselin, 3 parts, may be brushed into the nose.

2. For generalized eruption, bichlorid baths, already referred to, plaster mull (Hebra).

3. Visceral involvement or tumors. Any of the energetic forms of treatment, already referred to, as injections, inunctions, etc.

4. For condylomata the area is washed with a 1 or 2 per cent. salt solution and then dusted with calomel.

5. Fissures or rhagades about the mouth may also be treated with calomel powder, or if they are at all persistent they may be carefully touched up with a 10 per cent. chromic acid solution or with a 1 per cent. sublimate solution.

6. For persistent or unyielding onychia, mercurial plaster wound about the finger gives favorable results.

7. For anemia the various iron tonics may be employed.

8. For mercurial enteritis, which sometimes occurs, the mercury should be stopped and the treatment should be directed toward the enteric condition, as is usually practiced in such cases.

9. For tertiary symptoms, such as the severe headaches, the bone involvement and the visceral lesions, the iodids should be employed or, where the symptoms are urgent, a mixed treatment may be used; for such cases the iodids and mercury should be pushed.

The influence of the specific treatment becomes apparent in a few days. The eruption becomes paler and new skin lesions seem to be prevented. The rhagades and the patches on the mucous membrane seem to improve after four or five days' treatment. The pseudo-paralysis, due to the osteochondritis, improves rapidly. Most resistant against treatment is the rhinitis. The discharge of secretion will continue for a long time, and even after this has ceased a peculiar noisy or snuffling respiration continues.

THE DIET.

If it is possible, these infants should be nursed by the mother. This is a great advantage to the infants. They are less liable, as a rule, to become rachitic, and it is a known fact that syphilitic children are especially susceptible to rickets. It is not right, however, that a wet nurse should be chosen for these children. The danger of infecting the wet nurse is extremely great and in every instance unjustifiable. This danger, it is well known, does not exist so far as the mother is concerned. It is known, as is expressed by Colle's law, that a mother may give birth to a syphilitic child, though she may remain free from any evidences of syphilitic infection. She may nurse that child and still remain free from infection. So far as the artificial feeding is concerned, syphilis, as well as all other general intoxications, tends to retard the development of infants and interferes with the nutrition. Congenital syphilis, then, predisposes the infant to atrophy or marasmus.

Syphilitic children are predisposed to alimentary disturbances, and they are also more susceptible to intercurrent acute infections, particularly septic conditions. There is no doubt that the study of a large number of these cases shows that the mortality is by far greater among the infants that are artificially fed than among those syphilitic children that are breast fed.

ETIOLOGY AND DIAGNOSIS OF TUBERCULAR SPONDYLITIS IN INFANCY AND CHILDHOOD*

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The first case which I am to describe, and which is rightfully the only one of the two cases detailed which belongs in this paper because of the

* Read before the annual meeting of the Illinois State Medical Society at Springfield, May, 1906.

age of the second patient, is that of a fine boy, aged 21 months, whose first 16 months were almost devoid of any illness. At about the age of 16 months he first began to suffer from bronchitis, and during the ensuing three months suffered from three attacks, each more persistent than the preceding. About this time we get a history of a fall backward against a bed which hurt him severely and from which he suffered for some hours; this may or may not be a factor. At 19 months he first gave evidence of pain in his right knee which caused him temporarily to cease walking, and showed signs of redness and swelling. At this time a diagnosis of rheumatism was made and treated accordingly, the local signs disappearing and he apparently improving generally. He was not seen again for some days when the mother stated that his walking again became impaired, and it was noted that he was running a persistent evening temperature of 99.5 to 102 F., with occasional morning elevation. During this time his heart, lungs, blood and urine examinations were negative, but his walking remained impaired and apparently painful, and, as remarked by his mother, his disposition had changed decidedly. During the ensuing two weeks repeated examinations of the spine were apparently negative to inspection and palpation, most of the symptoms pointing to involvement of the right leg. Three weeks before his death the first spinal rigidity became apparent, his attitude being one of over-erectness with some evidence of lordosis; his walk was careful and he would look for something to support himself, being unsteady and wabbly.

In Case 1 there was no apparent psoas contraction, probably due to the fact that the abscess at the time of death was distinctly localized to the region of the third and fourth lumbar vertebral bodies. He could not be induced to stoop and attempt at making him assume the posture caused him to cry. He apparently suffered his most intense pain when being dressed upon awakening in the morning, at which time he would frequently cry pitifully. Extension of the lumbar spine very late gave evidence of pain in this region, but not until four days before his coma could it be positively stated that there was an increased rigidity on manipulation, although his gait indicated it some time previously. Rectal examination was negative.

Ten days before his death *x*-ray pictures were taken of his spine in the anterior-posterior and lateral diameters. To facilitate the same he was given a light chloroform, ether and alcohol narcosis, from which he never returned to consciousness, dying on the tenth day with meningeal symptoms. Although he had been very irritable previous to the administration of the anesthetic his mind seemed clear and active, rather remarkable when we consider the gross pathological lesions and numerous tubercules found histologically in the brain substances and meninges.

Diagnosis.—Tuberculosis of third and fourth lumbar vertebræ and tuberculous meningitis.

Autopsy Report.—Acute generalized miliary tuberculosis. Tubercular basilar lepto-meningitis. Internal hydrocephalus. Chronic caseous tuberculosis of left peribronchial lymph glands with absorption atelectasis in left upper lobe. Caseous tubercular nodules in kidneys. Tuberculous caries of third and fourth lumbar vertebræ and intervertebral substance.

with right-sided, extra-vertebral tubercular abscess. Acute suppurative and ulcerative follicular enteritis and colitis. Hypostatic congestion of lung (slight).

External Appearances.—The body is that of a poorly-nourished, much wasted child about 2 years old. There is much posterior lividity and some purple spots scattered over the body.

Abdominal Cavity.—The peritoneal cavity contains slightly more fluid than normal. The omentum is free and contains a small amount of fat. The liver lies one finger's breadth below the costal arch. There is a small amount of fibrin on the surface of the liver, some also on the stomach. Inguinal and femoral rings are closed. No changes are found in the hypogastric arteries or umbilical vein. The mesenteric and retro-peritoneal lymph glands are not enlarged.

Pleural and pericardial cavities show no changes.

Heart appears normal, except that the myocardium is pale.

Lungs.—At the hilum of the left lung is a mass of very firmly caseous glands varying from one to two cm. in diameter. One caseous area involves the lung tissue. A small area of the lungs near these glands is atelectatic. The glands of the other lung and of the anterior mediastinum show no changes. The lungs themselves show slight hypostatic congestion and are studded throughout with minute pinpoint white areas, apparently miliary tubercles.

Liver.—It is a trifle larger than normal. Beneath the serosa of the left lobe are a few minute yellowish points not raised; they extend a short distance into the parenchyma. On the cut surface there appears many pale areas of mottling, distributed irregularly, forming perhaps one-sixth of entire substance. No tubercles are seen in the liver substance.

Spleen.—This organ is about normal in consistence; no gross changes recognized.

Adrenals appear to be normal.

Kidneys.—The left kidney is rather soft and the parenchyma is pale. The cortical markings are less distinct than normal. The capsule strips easily, leaving a smooth surface. In the kidney substance are two sharply circumscribed, irregular, firm, slightly yellowish nodules, one 2 by 4 mm., the other 1 mm. in diameter. The right kidney in general resembles the left; it contains two whitish areas, 1 mm. in diameter, in the cortex.

Urinary bladder shows no changes.

Stomach and Intestines.—The stomach shows great postmortem changes so that it is very soft and is torn by removing it. In the small intestine the Peyer's patches are slightly swollen and congested and occasional follicular ulcers are present, mostly near the junction of the ileum and jejunum. A number of the solitary follicles in the colon are replaced by pinhead-sized ulcers, with raised congested margins. Of the other follicles some contain abscesses, some are congested and some are normal. The peritoneum over some of them is involved.

Vertebral Column.—To the right of the third lumbar vertebra, lifting up the soft tissue, is a collection of from 5 to 10 c.c. of thick, yellow pus,

distinctly limited by fibrous tissue. The psoas muscles are not involved. A cross-section shows the bodies of the third and fourth vertebræ and intervertebral substance to be partly replaced by some purulent material; the destruction involved the posterior portion of the bodies of the vertebræ and more on the right side. The third is more completely destroyed than the fourth, containing no red marrow at all, but is purulent looking throughout the spongy portion.

Brain and Meninges.—When the meninges were opened at the third lumbar vertebra a considerable amount of cerebrospinal fluid escaped, apparently under pressure. The meninges here show no changes. There are no changes in the skull or dura of the brain. The brain is apparently under great internal pressure. The convolutions being much flattened and closely approximated to the dura without intervening fluid the vertex of the brain is dry. No changes over vertex; anterior fontanelle is still open, but no gaping of sutures. At the base of the brain around the optic chiasma and other cranial nerves the spaces are completely filled by a solid mass of grayish-yellow fibrous exudate which also extends a short distance along the great fissures. A few gray tubercles are seen beneath the pia in the vicinity of this exudate, but none in the exudate itself. On opening the brain, the lateral ventricles are seen to be much distended, but the fluid has escaped. Numerous tubercles up to 1 mm. in diameter are seen scattered throughout both white and gray substance of the cerebrum and cerebellum, about a dozen being seen in one cross-section of the brain.

Bacteriological Report.—Smears from abscess by the side of the vertebræ show tubercle bacilli in various stages of preservation and not many cellular elements. Cultures from same in bouillon and plain agar remain sterile after two weeks.

HISTOLOGICAL REPORT.

Myocardium.—The heart muscle appears normal.

Spleen.—The veins and pulp spaces are congested. Scattered throughout the organ in the pulp Malpighian corpuscles, trabeculæ and capsule are numerous miliary tubercles; they are in all stages from the incipient proliferation of fibroblasts to the full-grown tubercle and contain an unusual number of giant cells; none show healing. The number of these tubercles is so great that they occupy about one-fourth of the entire area of the sections.

Kidneys.—The intertubular capillaries show considerable congestion. There are five or six rather large tubercles at the junction of the cortex and medulla; one of these had grown in the wall of the arciform artery and occluded it. Corticalward from this the tubules show deep red, staining with pyknosis of nuclei—young infarct. The tubercles all have giant cells and one blood vessel shows a giant cell free in the blood stream.

Liver.—Under the capsule and in the glissonian tissue there are many very young tubercles. Some are mere areas of necrosis with a giant cell in the center or are without giant cells and have accumulations of lymphoid tissue around an area of fibroblasts. There are many multinuclear

liver cells, especially in the subcapsular zone. Some of the cells contain as many as eight nuclei.

Lung.—A section taken near a caseous lymph gland shows an area of almost complete atelectasis, containing two large caseous tubercles and many miliary ones; there are numerous giant cells, as many as six to a cell or tubercle. Outside this area there are a few miliary tubercles situated in thickened and infiltrated parenchyma. Some of the alveoli show emphysematous dilation.

Intestine.—The solitary lymph nodules are the seat of tuberculous processes from hyperplasia of fibroblasts to rather large caseous tubercles. The change seems entirely confined to these regions and does not affect the peritoneum. There is considerable digestion of the mucosa.

Brain and meninges.—Sections through the cortex show rather large, well-formed caseous tubercles of typical structure located in the brain substance. There is a great accumulation of round cells about them. The meninges show infiltration with lymphoid cells. The chorioid plexus appears normal.

This case presents many instructive features:

1. Several persistent bronchial attacks with almost negative physical findings. On autopsy an old process in the peribronchial glands with more recent involvement of the parenchyma.

2. The acute onset of the spinal caries with its rapidly fatal course, a few months after a bad fall.

3. Late appearance of symptoms pointing to spinal involvement with remote symptoms pointing to the lower extremity and probably due to pressure on the nerve supply leading to the parts involved or involvement of the root nerves directly; the process on the same side as the tubercular abscess.

4. Precipitation of the fatal issue by the anesthetic, whether due to raising of blood pressure with subsequent rupture of some of the tubercles into the blood stream, the manipulation of the spine under the anesthetic with dissemination of the infection or a lowered resistance due to the chemical action of the anesthetic can never be known. With reference to the third probable cause, the work of Rubin is of intense interest and may shed considerable light on the rapidly fatal issue. In a series of animal experiments he sums up the following conclusions:

That alcohol, ether and chloroform have a decided influence on the natural defenses against infection, and that this lowering and suspension of resisting power of the animal is not due to any apparent organic lesions. since no changes in any of the vital organs were discoverable in any of the animals, except such as were caused by the infectious material employed (pneumococcus and streptococcus). 2. The narcotics appear directly to influence the substance or substances which inhibit the growth and toxic action of bacteria in the normal animal, and these substances are either the leucocytes themselves or something derived from them, or both. 3. The period of detrimental action of the narcotic depends largely on the amount administered, the depth of narcosis and the rapidity of its

elimination from the system. (He used hypodermic injections, but believes the source of absorption is immaterial.)

Snell, in a series of experiments with anthrax infections, found that alcohol and ether suspend conferred immunity and that in every instance the injection proved fatal to animals, otherwise immune, when they were subjected to narcotics.

A review of the histological findings can not help but convince us that the fatal issue with its preceding coma was not far distant.

CASE 2.—Young man, aged 21 years, operated on for appendicitis three months before death. The pericecal glands were found enlarged and in the region of the fourth lumbar vertebra. On the right side a tumefaction was found which was thought to be a lumbar abscess and was left undisturbed. The wound healed readily and the boy left the hospital on the tenth day. Three weeks after operation pain reappeared on the right side over the area of the operation, remained at this point for a few days and then shifted more to the left of the spine, where it remained more intense until his death, which is rather exceptional when we note that the abscess was to the right of the spine, but may be accounted for by the kidney findings on the left side.

The boy had no visible deformity, walked one week before death, though his gait had been somewhat impaired and stiff, and distinct muscular rigidity was first noted one week before coma, which appeared three days before his death.

Diagnosis.—Tuberculosis of the fourth lumbar vertebra, with previous uremia and appendicitis.

Autopsy Report.—Tuberculosis of peribronchial, mediastinal, peritracheal and peripancreatic lymph glands. Tuberculous caries of third and fourth lumbar vertebræ. Right tuberculous psoas abscess. Hypostatic congestion with terminal gangrene in both lungs. Acute parenchymatous nephritis. Left hydro-uretro-nephrosis. Obliterative fibrous pericarditis. Bilateral fibrous and serous pleuritis. Recent amputation of appendix. Tubercles in liver, kidney and spleen.

External Appearances.—The body is that of a tall, slender young man, 172 cm. in length. Superficial lymph glands not palpable. Narrow white scar completely healed over McBurney's point. Also superficial scar over the chest is shown. No other abnormalities found.

Abdominal Cavity.—Inguinal and femoral rings closed. The external surface of cecum is adherent by firm adhesion to parietal peritoneum over an area about 6 cm. in length corresponding to the scar. There are few adhesions to the parietal wall posteriorly; all easily torn. Vermiform appendix is missing and a firm lump marking the attachment of the stump to the cecum, as well as a silk ligature, remains. The lymph glands in this region are not enlarged. No sign of infection is seen in the same part. The peritoneum in general is smooth and shining. Omentum free from adhesions. Peritoneal cavity very dry. Mesenteric and retroperitoneal lymph glands are not enlarged. Left ureter is greatly dilated; stomach moderately dilated. No adhesions about the gall bladder nor

liver. The diaphragm extends down to the fourth intercostal space on the right side and to the fifth on the left.

Pleural Cavity.—Intermediastinum negative. Lungs collapsed well. Thymus largely replaced by fat. In the superior part of anterior mediastinum is a caseous lymph gland 5 mm. in diameter. The left pleural cavity contains 300 c.c. of blood-stained fluid; shows upper part completely obliterated by firm adhesions.

Pericardial Cavity.—Completely obliterated by fibrous adhesions which are not very dense. Over the base of the heart lie a number of tuberculous lymph glands intimately adhered to external surface of the pericardium. There are no evidences of tuberculosis in the pericardium.

Heart, Aorta and Vessels.—Heart normal in size. Aortic and pulmonary valves negative. Large mass of caseous lymph glands between the pulmonary artery and left auricle. The beginning of the aorta is smooth. Mitral and tricuspid valves are negative. Foramen ovale is closed. Myocardium normal.

Lungs.—Left: Anteriorly is very pale; posteriorly is dark. There are numerous ecchymoses beneath the pleura. The posterior portion of the upper lobe is greenish or grayish-yellow and the discoloration corresponds to the horizontal line of gravity. The upper portion of the lower lobe is also somewhat similarly discolored. On pressing the lungs gas bubbles escaped from all over the surface, but they had no foul odor and did not burn when a lighted match was applied. Boggy, darker areas, particularly in the lower part. There is no definite consolidation. The glands of the hilus are largely caseous, non-calcified. Cut surface, lower lobe, was seen to be dark, moist, exuding much fluid which is not very frothy. Along side the larger bronchi minute caseous masses are occasionally found. A cut through the necrotic portion of the lower lobe was seen to be darker and more brownish in coloration. Right lung: The same brownish discoloration at the posterior portion, limited to the posterior part of lower lobe. One small hemorrhagic infarct, 7 mm. in diameter, at posterior surface. Except in the lesser extent of the processes, the right lung corresponds to the left.

Peribronchial Lymph Glands are caseous and much enlarged; no calcification.

Liver.—The external surface is negative. Cut surface is normal. Periphery of lobules a trifle lighter. In one place near to the capsule there is a pale area about 3 mm. in diameter.

Spleen.—Is normal in size. Cut surface showed a number of small yellow tubercles.

Pancreas.—Normal.

Gastrointestinal Tract.—Normal.

Adrenals.—Both are negative.

Kidney.—Left: Pelvis enormously dilated, measuring about 10 cm. in breadth. The kidney substance is reduced to 1/6 the normal bulk and contains one cyst 1½ cm. in diameter. When cut open one island of comparatively normal tissue remains at the lower pole, the rest has been atrophied to a thin shell forming part of the wall of the dilated pelvis.

Right.—Larger than normal, cortex greatly thickened to about 10 mm. In one place there is a pale yellow area. Cortical margin is obscured. The substance is soft, pinkish-gray and swollen.

Urinary Tract.—The urinary bladder contains much turbid urine and its mucosa appears normal. The orifices of the ureters are normal. No obstruction in the ureters. The right ureter is normal. The left is greatly distended and measures 3 to 4 cm. in circumference in the lower part. But a portion 6 cm. long just below the pelvis appears normal.

Generative Organs.—Prostate is normal; testicles show no changes.

Muscular System.—Left psoas is normal. The right psoas is converted into a sac containing a thin yellow pus which follows down to and through Poupart's ligament, but not farther. The small amount of muscular tissue left in the upper part is pale and waxy in appearance. The upper part of this abscess communicates with the eroded third lumbar vertebra.

Skeleton.—The body of the third lumbar vertebra at its posterior portion is entirely destroyed and replaced by a yellowish mass, also involving the intervertebral disc and part of the posterior portion of fourth lumbar vertebra. The anterior part of the vertebra remains.

Lymph Glands.—The lymph glands about the trachea are all caseous and all reduced into one mass. Caseation in the peribronchial, mediastinal, pericardial and peripancreatic lymph glands.

1. This case presents rather a different phase than Case 1 in that the referred pains were in the abdomen rather than the extremities, although the same vertebræ were involved.

2. The masking of the symptoms by the presence of the left kidney lesion and apparent late development of the spinal symptoms, although the beginning abscess had been noted at the operation three months before death.

3. The short time (four days) that the patient was unable to leave his bed before coma, while almost the entire body of the fourth lumbar vertebra had become necrosed.

These two cases have several points in common—primary involvement of peribronchial glands, with secondary extension to the spine, with all early symptoms pointing to distant parts and all absence of spinal deformity.

The etiology of tuberculosis in infancy and childhood has in the past decade been the subject of numerous discussions and a vast amount of research. Many theories as to the frequency of the various sources of entrance of the infection have been advanced. Carefully compiled statistics showing the relative age frequency as associated with the more frequent lesions at those periods are at hand, but in going over the literature I find very few cases reported which show definitely the primary focus of infection to which we can ascribe the secondary infection in our spinal cases. In our cases with the finding of old caseous peribronchial glands with apparently all other foci of more recent infection, the possibility of a primary infection of the tonsils or aural mucous membranes may be considered the source of infection.

The tubercle bacilli may be introduced to the body by inhalation and find their way to the bronchial glands, or by the mouth, and set up disease in the mesenteric glands; or, following infection of the nasal passage or neighboring parts, secondary disease of the cervical lymphatics may develop and by direct extension involve the peribronchial glands.

In discussing the location invaded by tubercle bacilli, we usually assume that the lymph nodes involved were infected by direct extension from the mucous membranes of their corresponding organs. This may be the general rule and is verified by numerous pathological reports. It is, however, doubtful if it always holds true.

Most frequently the extension appears to be by the lymph stream, but the tendency in children to rapid and frequent infection of the internal organs and to generalization of the tuberculosis also points to the blood stream as a frequent route; and, as the lymph nodes are especially susceptible, there is nothing against the assumption that they may be infected by the blood.

It should also be borne in mind that there appears to be nothing in the way of assuming that tubercle bacilli may pass through one or more groups of lymph nodes before they become stationary and set up inflammation. This has been especially emphasized by the work of Grawitz, who mentions the possibility of a descending tuberculosis from the tonsils and cervical nodes to the tracheal and bronchial nodes and finally attacking the lungs. Aufrecht and Beckman also quote probable primary tonsillar infection. The question naturally arises, Does not each organ possess its definite lymphatic organs, which are a distinct and isolated system, and must not an extension from this local focus be by way of the blood?

It is a fact that, although tuberculous inflammation, like many other morbid processes, is prone to remain localized within a certain part of the lymphatic system (Weigert), extensions to other groups of lymph nodes and lymph vessels may take place comparatively easy in a direction opposite to that of the lymph current. This condition is facilitated when some lymph vessels have become obliterated; the extension will then take place through the capillary communications which exist between the various regions.

One may also have an ascending tuberculosis from the abdominal lymph nodes to the chest. The infection, which in such cases probably has taken place through the intestinal mucosa, first attacks the mesenteric nodes and extends to the retroperitoneal nodes and further to the various groups situated in the chest and neck. More frequently the infection spreads downward from a certain primary focus to other groups, frequently starting in caseous nodes beneath the lower jaw and along the entire neck, not infrequently involving the supraclavicular and axillary regions, and, further, in the posterior mediastinum along the trachea in the pulmonary hilus and outward along the bronchi; finally, in the mesentery and retroperitoneal tissue from the diaphragm, downward along the spine and iliac vessels and occasionally involving the inguinal glands.

In reviewing the literature it is markedly evident that the mouth,

tonsils, pharynx and their regional lymph nodes have not received enough attention as to possible primary seat of many infections. It becomes self-evident that with beginning caseation and destruction of the localizing influence of the normal glandular tissue the danger of rupture into the blood stream becomes great and the possibility of the general distribution of the infection evident. This may be facilitated by trauma, as the manipulation under anesthetic in Case 1, or by the gradual destruction of the enveloping tissues. Such a condition is manifested by a general miliary tuberculosis.

Diagnosis.—It is a well-known fact that in tubercular spondylitis at various levels of the cord we get a variety of referred symptoms unequaled by any other chronic condition to which patients are subject, varying from earache to sciatica and from hyperesthesias to severe joint involvement, but usually early in the disease, whether it be in the cervical, dorsal or lumbar regions. We find more or less marked some or all of the following group of symptoms: 1, Pain; 2, stiffness; 3, weakness; 4, awkwardness; 5, deformity. associated with an irregular temperature

Pain.—We are easily led by the absence of a localized area of pain which early in the disease is the rule, because of the depth at which the lesion is located and the tendency to burrow downward and forward, therefore sensitiveness to pressure on the projecting spinous processes is unusual, and palpation, except in the cervical region, is of comparatively little diagnostic value. Instead of local pain we have distributed reflexly to distant points pain along the trunks whose filaments supply the bodies involved. The pain of Pott's disease is usually not a constant one, but rather induced by unguarded movements and trauma. The former of these accounts for the "night cry" when the protecting muscular spasm is relaxed and the child unconsciously moves the spine.

Stiffness or Loss of Normal Mobility—Is due to two factors: first, part voluntary, in that the patient adopts his movements and attitudes to the disease and pain, thus avoiding possible jars and strains; second, by the involuntary muscular tension and contraction of the muscles about the seat of disease. This is the most important and usually earliest diagnostic symptom of Pott's disease and varies in degree with the amount of underlying disease.

Weakness.—"Loss of walk," the refusal to stand or the desire for support is seen early and easily accounted for when we realize that the body support is in a state of disease and its strength undermined.

Awkwardness.—A symptom-complex caused by the preceding three—pain, stiffness and weakness—and resulting in a change in the habitual attitudes of the patient. This group of symptoms is important in the localizing of the seat of the disease.

Deformity.—Under this head we must classify the signs into: 1, bone deformity due to the destructive process in the vertebral bodies; 2, muscular deformity, the distortions due to muscular spasm or contraction; 3, compensatory deformity, the more general effect of the local disease and local distortion upon the spine as a whole. These range in intensity and degree with the local irritation of the surrounding tissues and the

amount of destruction of the bones involved. They are later signs and unfortunately usually indicate considerable progress of the disease and fortunate is he who has not needed them to complete his diagnosis. Copeland's test depends upon the development of a hypersensitiveness to heat over the seat of disease and best elicited by passing a test tube, filled with hot water, along the spine over the transverse processes.

Early x-ray examinations are of great importance in these cases, which are so clearly illustrated in Case 1, where the degree of destruction, though only moderate, can be localized beyond a doubt, also the common danger of misinterpreting the reflected pains as local diseases in the parts affected, illustrated by the early conclusions in both of the cases here reported.

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BIBLIOGRAPHY.

Aufrecht: Verh. d. Deutsch Path., Gesellsch, 1902, iv, p. 65.
Beckman: Das Eindringen der Tuberculose und ihre Bekaempfung, 1904.
Grawitz: Deutsche med. Wochenschrift, 1901, No. 27, p. 11.
Harbitz, F.: Journal of Infectious Diseases, vol. ii, No. 2.
Jehle, A.: Wienir Klinische Wochenschrift, xvii, No. 38, 1904.
Porter, J. L.: Chicago Medical Recorder, xxvi, No. 5, 1904.
Rubin, G.: Journal of Infectious Diseases, vol. i, No. 3.
Snell: Berliner Klinische Wochenschrift, 1903, viii, p. 268.
Weigert, C.: Jahrbuch f. Kinderheilkunde, 1884, p. 146.

SARCOMA IN CHILDHOOD, WITH REPORT OF CASE.*

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It is not within the province of this paper to enter into any details of the treatment of sarcoma. That the prospect is uninviting is acknowledged, but it is not so serious as to prohibit a trial. From the experience of some of our own surgeons, and notably from a few European operators, we gather some crumbs of comfort. In operating sarcoma of the kidneys in children the mortality runs exceedingly high owing to frequent subsequent involvement of the remaining kidney. Bland Sutton estimates that 95 per cent. succumb either to the primary operation or to the recurrence, but in cases involving the neck, jaws, tongue and extremities the outlook is not so grave. Especially important is it that the general practitioner who usually sees these cases first should encourage interference at the earliest possible moment.

Statistics varying from 16 to 40 per cent. of recoveries are given, according to location and stage at which treatment was inaugurated, and there is no doubt that this number could be materially increased if the profession would adopt a more hopeful tone and insist on immediate intervention. Operation is not mentioned in this connection because it can not always be secured, although far preferable to other means, but whatever method the physician is led to adopt he must begin early.

The conclusions of the investigators who have taken up the subject of

* Read before the annual meeting of the Illinois State Medical Society at Springfield, May, 1906.

sarcoma seem to be universal, that no age or tissue is exempt from its inroads, Sutton says, "from the fetus in utero and the child newborn, to the extreme limit of age." But while examination of the files of medical journals and current literature of the day show abundant reports and extensive investigation of sarcoma in general, the literature of sarcoma in children is meager and inaccesible, most surgical writers passing the subject with mere mention, some not even mentioning it at all. Macdonald, in his Surgical Diagnosis, says of sarcomata: "They are rarest in children, rare between the ages of ten and twenty years, most frequent in middle life, and rarer in old age."

That this neoplasm is very common in childhood is generally admitted. That it is not so generally reported is apparent. That sarcoma in the adult is on the increase is unquestionable. That there is a corresponding increase in children is probable. That the seemingly small number of cases reported is due to the fact that infants and young children are not so generally presented for operation, and owing to tender years and lack of vitality are not so generally accepted for operation when they are presented. It is not the custom either in the morgue or in private practice to hold postmortem examinations on young children as frequently as on adults. The query is here raised, is not sarcoma in childhood more common than it is generally supposed to be?

If the cases are diagnosed reports are very meager; reports of two cases have appeared in the *Journal of the American Medical Association* in the last two months. One, a case of sarcoma of the testicle, with metastasis in the lung of a child three and a half years old, reported by Dr. F. S. Spearman, Whiting, Iowa. This report brought forth another by G. Betton Massey of Philadelphia, of a congenital case of sarcoma of the orbit. These cases have been carefully and accurately reported, but what a multitude of cases could be added if the general practitioners would investigate their cases and report them.

The claim of Dr. Guthrie McConnell of St. Louis, derived from the last census report, that cancer is most prevalent in rural districts, is believed to be well founded, and further that it will hold good in sarcoma of children whenever the subject shall be thoroughly investigated. Metastasis of sarcoma of the genito-urinary tract into the lung, which is common, is believed to be a source of confusion, such cases being mistaken for tuberculosis.

Since sarcoma is accepted as being a connective tissue growth, and since childhood is the most active period of connective tissue development, should we not reasonably expect that sarcoma would be uncommonly prevalent at this age? Should it not furnish an extraordinarily fruitful field for investigation in this line? Certainly if we accept in any degree the embryological theory of development of these growths from the mesoblast, we have an added reason for investigating them during the earliest periods of their existence.

Dr. Carl Stern's compilation in the *Deutsche Medicinische Wochenschrift* presents a summary of cases, which is as follows: Nose, 1; leg, 2; shoulder, 1; axilla, 1; forearm, 1; tongue, 1; cerebellum, 1; vagina, 2; uterus, 3; ovary, 2; testicle, 3; prostate, 4; retroperitoneal glands, 2;

pancreas, 1; liver, 2; esophagus, 1; small intestine, 2. Of these cases, the ages ranged from 10 days to 15 years, three cases, being believed to be congenital, being from mothers already infected, while in one case of sarcoma of the nose in a newborn babe the mother was healthy. Stern also quotes Rohrer, who compiled 115 cases, of which one-third were under 10 years of age. One significant feature of Stern's compilation of cases is that fourteen of the thirty cases showed involvement of the genito-urinary tract, a very common complication of this malady.

In presenting this case and specimen for your consideration, nothing especially unusual or interesting is claimed except to direct attention to the youth of the patient, the size of the growth and the lack of constitutional symptoms accompanying its development and to notice the double cross of cancer on the paternal side, to which is added a double history of tuberculosis, also on the paternal side. The patient's history is as follows:

M. T., aged 5, had no childhood disease except whooping-cough, no unusual ailment except that, at 9 days old, the skin came off the whole body in large flakes, in some places deep enough to cause sores, especially on the heels. In October, 1904, she complained of pain in right iliac region, which subsided in a few days.

Health rather good until May 1, 1905, when she was re-examined, and a large abdominal tumor found. There was no pain of a serious nature and no constitutional symptoms. Temperature and pulse normal. Complaint at this time was of obstruction of the bowels, incomplete but persistent. External examination of the abdomen showed a large solid tumor filling the whole abdominal cavity. Rectal examination showed the tumor to be attached to the entire anterior wall of the sacrum and a diagnosis of inoperable tumor, probably sarcoma, made. At the request of the parents an exploratory operation was made and a number of intestinal adhesions broken up, which gave relief to the obstruction of the bowels and added greatly to the patient's comfort. The tumor was not removed. The child lived six months after the operation. The tumor was removed postmortem. It originated from connective tissue on the entire anterior surface of the sacrum and on microscopic examination was found to be a fibrosarcoma of the spindle-cell variety, the usual form in this locality.

Family history shows two sisters and one brother all in good health. Father and mother well, have had nothing but slight ailments. The paternal grandmother died of cancer of the stomach. One paternal aunt died of cancer of the breast. Two second cousins on the paternal side died of tuberculosis, on the maternal side no history of any hereditary disease could be found.

MEDICAL OPHTHALMOSCOPY.*

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The title of this paper may, to many present, imply almost anything referable to disease of the eye. The strict interpretation of the term medical ophthalmoscopy, however, is "the examination of the interior of

* Read before the Annual Meeting of the Illinois State Medical Society at Springfield, Ill., May, 1906.

the eye by means of the ophthalmoscope as an aid to diagnosis in internal medicine." The contents of this paper will, therefore, deal with the subject in strict conformity with its definition and not deviate into such discussions as the differential diagnosis of iritis and conjunctivitis, of iritis and glaucoma, because, for the good of humanity and the credit of our profession, be it said that practically all reputable medical colleges now teach ophthalmology. It is a matter for sincere congratulation to see how nicely and precisely the recent graduate can diagnose many of the acute inflammatory diseases of the eye and prescribe the necessary treatment. This surely is as it ought to be. It is a grave error for a physician to treat a case of acute iritis as a conjunctivitis, or a glaucoma as an iritis, thereby causing or being instrumental in the loss of an eye or its function. Yet every ophthalmologist comes in touch with such cases altogether too frequently, to the distress of the patient and discredit of medicine.

The few words contained in this paper might be designated as a plea for the more frequent use of the ophthalmoscope in the hands of the profession in general. The ophthalmoscope is a much maligned and long-suffering instrument, and unjustly so. We very seldom see it used for the study of morbid processes except in the hands of the specialist, and then very often with a great deal of mystery. This certainly is not in conformity with a broad and just interpretation of medical ethics.

I am pleased to note that in some of the schools in Chicago, and I hope elsewhere, students are taught to use this instrument. The ophthalmoscope should be a part of the physician's armamentarium with almost as much regularity as the stethoscope is.

The objection invariably raised is that the general practitioner can never master this intricate and difficult bit of machinery; granted, but does the ophthalmologist? Does every physician master that useful, simple and universal instrument, the "stethoscope?" How many men of average ability, even after years of active practice, can detect an obscure râle or locate a faint valvular murmur with unerring precision? Furthermore, because the eye specialist is said never to *master* the instrument is no reason why it should not be of occasional assistance in the diagnosis of disease in the hands of the general practitioner.

It is repeatedly said that it is a very difficult instrument to learn to use. With some it is and with others it is not; in this respect it is like any piece of scientific apparatus, except the thermometer and the watch. Give me a dilated pupil, a reasonably intelligent head behind the glass and I will teach it to see the fundus intelligently in ten minutes. When a student has studied half a dozen normal fundi, he can in a moment detect any marked change. Very slight deviations from the normal are occasionally difficult to detect in this location as they are elsewhere, even by the most skilled and experienced. When a practitioner who is in the habit of using the ophthalmoscope as an aid to the diagnosis of diseases sees what to him appears abnormal and he is not sure of his interpretation, he ought to refer the case to one who in all probability can solve the difficulty rather than give a shotgun prescription and trust to luck. If the

physician can not see the fundus oculi, or pays absolutely no attention to it, as is generally the case, very distinct evidence of local or systemic disease may exist, and the patient put off with a placebo until such time as distinct constitutional evidence of pathological changes arise when the diagnosis is made, but, alas! too late to be of any use to the patient. The man who can use the ophthalmoscope, even as an amateur, has an additional instrument at his command, an instrument of proven value, and is that much more the better man, for sooner or later a case will present itself where this little instrument will enable him to make a correct diagnosis, while without it he will have failed.

One now sees in the offices of many enterprising physicians cards of test-types hung on the wall, obviously for the purpose of testing the acuity of vision. This is exactly right as far as it goes, but it is not enough for the responsible general practitioner or the life insurance examiner. Many a patient has lost his life because a doctor and perhaps the specialist has been satisfied when the vision was normal, when a very elementary examination of the fundus would have revealed in a moment evidence of grave local or constitutional disease. Eye specialists in their haste very often omit the examination of the back of the eye when the patient can read 20/20 or better, assuming that there is nothing wrong. This practice is very reprehensible, for we never know that disease does *not* exist unless we examine. There may be very grave disease, with ample evidence in the fundus and the patient read 20/20. For the last year I have been making drawings of diseased fundi where the vision was 20/20 or better, and the number of such cases and the extent of the lesions would amaze you, and yet these patients have brain tumors, advanced arteriosclerosis or Bright's disease, and the only indication of such disease may be the evidences visible in the fundus.

We had a very unpleasant experience of this nature in our clinic about a year ago. A male patient presented himself for relief from headaches; he had suffered for a long time. He was examined for refractive error, thinking that his headaches were due to eyestrain. Glasses were prescribed, for he had refractive error, and with his correction he could read 20/20; examination of the fundi was neglected. Four months later the patient died, brain tumor, and with choked disc so evident that any tyro who had ever seen the normal fundus would have known that there was something wrong. The profession in general are too prone to assume that all is well so long as the vision is normal. In the matter of making a diagnosis we are never safe in assuming anything; *make the examination thorough.*

Suppose a patient presents himself complaining of persistent headaches, accompanied with vomiting. One naturally makes up his mind that it is due to gastrointestinal troubles, and you give him medicine and he does not improve. You change the medicine and still he is no better. After a time you get ashamed of yourself or you are afraid of losing your retainer and you begin to do something. And now in your study of the case you make a very careful examination from head to foot and you find nothing; what do you do? You purge him and you diet him, you sweat

him and you exercise him, with no benefit, or very little; then you begin at acetanilid and end with a placebo, mental suggestion or a sojourn somewhere. Your friend becomes justly out of patience with you and tries another doctor. His new medical adviser may be somewhat more enterprising, knows you have gone over the patient pretty thoroughly. He likewise goes over the case carefully and, like yourself, finds nothing; but he takes the vision and he finds it good; he then instills a few drops of a 4 per cent. solution of hydrochlorate of cocain in each eye and uses his ophthalmoscope; he finds choked disc; diagnosis, a brain tumor. True, the prognosis is very poor, but you have made the diagnosis, and if you can do nothing you have at least given your patient time to get his house in order.

A female patient presented herself at my clinic to have glasses fitted for reading. She gave the history of failing health for over a year. Her doctor had made several examinations, with negative results, but he had kept her taking medicine. It was about the time for the menopause and he assured her that she would eventually be in good health again. She had of late noticed that her distant vision was not quite so good as usual. Glasses failed to improve the vision and she was taken to the dark room, where a diagnosis of albuminuric retinitis was easily made. Urinalysis revealed advanced Bright's disease. The doctor had failed to keep up his examinations of the urine; a momentary glance at *that* fundus would have made everything wonderfully clear. I invited a doctor, who had just entered the class, and who had never used the ophthalmoscope, did not even possess one, to see the case and examine the fundus. From the manner he began to handle the instrument I knew he had never seen a fundus, but with little assistance he gave me a very good description of what he saw.

Another case, that of a young man of 24, single, with a clean personal and family history. His health had been gradually failing for some time, though he had been under *tonic* treatment. His physician had sent him in to see if there were not some eyestrain that would account for his trouble. His vision was 20/20 with practically no refractive error. The ophthalmoscope showed a chorio-retinitis so distinct that no one could have overlooked it. Treatment, mercury and iodid, with immediate results.

A fundus examination will occasionally clear up the difficulty in making the diagnosis in miliary tuberculosis, though the number of observations reported is small, yet in this disease tubercles do occasionally form in the retina or chorioid. Their development is sometimes very rapid and the size attained may be half that of the disc. They are generally found in the neighborhood of the entrance of the optic nerve and are easily recognized. The diagnosis of miliary tuberculosis is occasionally difficult, and a fundus examination may clear the difficulty.

Perhaps in no class of cases is the ophthalmoscope of so much positive value as in the detection of vascular diseases. These cases form an increasingly large proportion of the general practitioner's work. The cause is unquestionably due in many instances to the great prosperity of the

American citizen. With the abundance of money has come, as a natural consequence a more bountiful supply of food materials, both solid and liquid, with a preponderating increase of meat. Make a tour of the Chicago packing-houses and the slaughter is enough to terrify one; the inquiry at once suggests itself: where does it all go? As a people we are eating altogether too much highly nitrogenous food and taking too little oxygen. This lavish food consumption, altogether unnecessary, is throwing too much work of a mechanical nature, to say nothing of the irritability of the chemical poisons produced by improper digestion and elimination, on the vascular system, and there is only one sequence, disease.

Arteriosclerosis is a disease that the physician must combat with all the skill and acumen at his disposal if he would save many of those under his care from untimely graves. We are very apt to consider vascular disease the prerogative of the aged, but this is very often a fatal mistake, for it is frequently well developed in individuals scarcely out of their teens. Many are inclined to pay little attenton to this morbid condition until they get a marked accentuation of the second sound or feel a hardened radial or temporal artery; they then realize the precarious condition of the patient, and unfortunately so does their client.

Adler of New York is of the opinion that these vascular changes in practically every case begin in the small vessels. Gull and Sutton recognized this and apparently intended to confine these changes to the small arterioles and capillaries. The increase in the tunica media and the fibrous development in the intima they, therefore, named arteriocapillary fibrosis. Russell of Edinburgh and Taylor of London are very insistent on the earliest possible recognition of this insidious disease. They, however, look to the general constitutional symptoms to assist in making the diagnosis, and very strangely make no reference to the fundus of the eye. notwithstanding the fact that Gowers directed attention to the eye in these cases over a quarter of a century ago. All are aware of the imminent danger a person is in who has advanced vascular disease, though he may be absolutely unconscious of his condition, enjoying the full measure of the pleasures of life. Yet some day the community or his friends are shocked by his sudden death, apoplexy, heart failure or something else; this is especially the case with our high livers. These cases make the study of vascular diseases one of great importance and interest.

What advantages does the fundus offer for the study of the early stages of arteriocapillary fibrosis or arteriosclerosis? The one great feature is the beautiful clearness with which your field of observation can be seen. Another condition is the comparatively high magnification; the retinal arteries as they lie in the disc are perhaps less than the hundredth of an inch in diameter, and yet by the direct method of examination they appear quite large and can be very clearly seen far beyond the disc; the capillaries can not be seen, of course. The walls of the retinal vessels are so thin that they are invisible, and in looking at the fundus what is seen is the blood stream inside the vessel. Remembering that some good authorities insist that the changes just spoken of begin in the very smallest vessels, what an admirable opportunity is offered by these small vessels in the fundus of the eye for study of such changes. If the contention of these pathologists is ever proven to be fact, then will the day be at hand when the general practitioner will be compelled to learn to use the ophthalmoscope.

A young man called to be examined for glasses, seeking relief from constant headaches. He had some error of refraction, and with his correction could read 20/15 with either eye. On examining the fundi I observed a distinct white line on each side of the vessels, beginning in the disc and extending for some distance outside. He gave a history of cerebrospinal meningitis, and here were visible manifestations of arterial changes that would have been absolutely impossible to detect elsewhere.

Mrs. R., aged 50, called to have her reading glasses changed. She volunteered the information that vision in the right eye was not quite so clear as usual, though, with her correction, vision was 20/20. With the ophthalmoscope a large number of hemorrhages of varying sizes could be clearly seen in the lower portion of the right fundus. Fortunately for the patient the neighborhood of the macula escaped. Distinct vascular changes could be seen in the vessel walls in both eyes. She is an active woman engaged in business, and feels absolutely well most of the time. Her father was attacked with blindness in his right eye at the age of 50 and died in five years; a paternal aunt lost the sight of both eyes at the age of 50, but lived until she was 85.

In view of these few remarks can there be any valid reason why the ophthalmoscope should not be accessible to every doctor as soon as he is ready for practice? That the instrument is beyond the ability of any man who is a graduate in medicine does not even require discussion. The individual who is capable of acquiring a passing grade in any college in this country is quite capable of learning to use the ophthalmoscope intelligently.

A most peculiar circumstance has often presented itself to me, and it is this fact: insurance companies will place any amount of insurance on a man so long as he passes the ordinary methods of examination, and yet such an applicant may be suffering from disease so well advanced that were it recognized it would forever debar him. These companies in some particulars are exceedingly keen in a business way, and yet in this very matter they are exceedingly unwary. I do not know of a solitary insurance company that requires a fundus examination, however great the amount of the policy. We are not losing sleep trying to protect the interests of the insurance companies, but we ought in all humanity and honesty to ourselves and our patients, whose lives are so confidingly placed at the mercy of knowledge, neglect nothing that will assist us in the smallest measure to discover disease and apply proper treatment.

TREATMENT OF BLENNORRHEA OF THE LACRIMAL SAC WITH ESPECIAL REFERENCE TO SAC EXTIRPATION.*

WILLIS O. NANCE, M.D.
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The modern tendency in the treatment of chronic lacrimal diseases is wisely in the direction of conservatism. Clinical experience has unqualifiedly demonstrated not only the inefficacy of indiscriminate probing, but actual damage resulting therefrom. The canaliculus knife and probe,

* Read before the annual meeting of the Illinois State Medical Society, Springfield, May, 1906.

while still having a legitimate place in lacrimal therapeutics, have prudently given way to the dilator and syringe in many instances with quite satisfactory results, yet there still remains a certain proportion of cases which resist all ordinary therapeutic measures. To this latter class of cases it is my purpose in this paper to especially allude.

The grim obstinancy with which lacrimal blennorrhea frequently resists curative measures is a matter of clinical record, notwithstanding the brilliant published results from various methods, both medicinal and mechanical, which, from time to time, have been exploited for its relief. True it is that most of the cases may be benefited by intelligent syringing, judicious probing, and rational nasal interference, and the nature of the discharge favorably modified and in occasional instances the symptoms entirely relieved, for a time at least, yet the fact remains, as borne out by extensive clinical observation, that the large proportion of patients suffer for months and even years, frequently testing the skill, patience and ingenuity of first one medical man and then another, without obtaining much material benefit or permanent relief.

No hard and fast lines can be defined for the treatment of lacrimal blennorrhea. The process manifests itself in such various conditions that its rational management necessitates intelligent adaptation of remedial agents in accordance with existing conditions. The physician who slits the canaliculi in every case or passes probes of various sizes indiscriminately is no more competetent to intelligently treat these cases than he who advises excision of the lacrimal sac as a routine measure.

The mild, recent and uncomplicated cases may best be treated by dilatation and unirritating injections, of which a solution of argyrol (10 to 20 per cent.) is unquestionably the most efficacious. The more chronic cases usually require the passage of probes, followed by injections. The smaller probes (1 to 3 Bowman), as well as the larger, it has been my custom of recent years to seldom employ, the former being objectionable in that even with exceedingly careful technic they are apt to penetrate the mucous membrane, and the latter have never seemed especially indicated and in some instances are positively harmful. It is only in a minority of cases that I believe slitting of the canaliculus is indicated, and when performed I am careful not to destroy the very essential lacrimal pump function by carrying the incision into the sac. In all lacrimal cases it is understood to be intelligent and competent therapeutic management to remedy any coexisting intranasal disease or abnormality.

In a paper read before this society in the year 1900 on "Chronic Inflammation of the Tear Passages"[1] I gave it as my opinion that extirpation of the lacrimal sac was justifiable as a last resort in intractable cases. Experience since that time has led me to adopt less limited restrictions for the performance of this radical operation.

In cases presenting a history of lacrimal suppuration with persistent overflow of tears which have resisted the ordinary methods of treatment with probes, etc., for a long period, or in cases where the patient is unable to remain under treatment or to undergo the pain incident to thorough,

1. Nance, Jour. Am. Med. Asso., Oct. 27, 1900.

persistent and long-continued probing, I do not hesitate to advise extirpation. The satisfactory results obtained have caused me to adopt this wide application of the operation.

Other indications are: repeated attacks of acute dacryocystitis with abscess, chronic distension of the walls of the lacrimal sac with bulging in the lacrimal region which can not be reduced by pressure with the finger, dacryocystoblennorrhea of a single seeing eye, stubborn chronic fistula of the lacrimal sac, ulcus corneæ due to dacryocystoblennorrhea, and in dacryocystitis as preliminary to operation on the globe of the eye, e. g., cataract operations, iridectomy, etc. The latter indication is positively obligatory. Substitute procedures to prevent communication between the diseased sac and the eye by cauterization or ligation have been proposed, but they have by no means received the unanimous endorsement of the more competent operators.

The operation is best performed in a hospital and general anesthesia is to be preferred, although I have operated successfully in several instances with the hypodermatic injection of the Sleich mixture, to which was added a few drops of adrenalin solution. Good light is essential, severe hemorrhage must be controlled, and the operative technic must be painstaking and thorough. Not only should the sac be dissected out in its entirety, but the mucous membrane of the nasal duct removed as well, or partial restoration of the membrane will take place with recurrence of the suppurative process. This is best accomplished by the use of the galvanocautery point well thrust down into the duct.

Little islands of diseased mucous membrane should be looked for and destroyed before the wound is closed. Buttonholing of the sac should be avoided as far as is possible. Injection of paraffin into the sac preliminary to the operation, as suggested by Simon,[2] and described by Todd,[3] assists in outlining the sac walls. The wound is closed by three sutures and primary union usually takes place. The patient may generally leave the hospital within ten days and should be under observation for a fortnight longer.

The results of the operation are usually highly satisfactory. The annoying epiphora decreases and frequently entirely ceases except when patient is exposed to wind or severe light reflection. Morover, the absence of suppuration renders the eye free from danger of lacrimal infection in case of injury.

A brief summary of a few illustrative cases is as follows:

C. C., aged 36, head waiter, first consulted me in 1897 on account of lacrimal abscess. During the following five years I treated him for three additional attacks, and for a period of seven years he was never free from an annoying epiphora. Both sacs were extirpated four years ago, with scarcely any annoyance since.

Annie L., aged 46, housewife, persistent overflow of tears for more than ten years. Both canaliculi had been slit and probes passed frequently for many months at a time with little improvement. Had worn

2. Simon, Tr. Ger. Oph. Soc., Arch. Ophth., 1903, p. 44.
3. Todd, Arch. Ophth., 1904, p. 371.

style for several months. Left sac extirpated eighteen months ago with positive relief from symptoms.

Margaret O'D., aged 28, dacryocystoblennorrhea. Under treatment at her home in Indiana two years with little benefit. Walls of sac distended. Epiphora. Eye more or less constantly inflamed. Extirpation followed by a complete subsidence of symptoms.

While conscientious surgical practice necessitates caution in recommending an operation of such a radical nature as the one suggested, the field for its performance is, I believe, greater than is usually recognized, and the results obtained certainly justify its further exploitation.

Basso,[4] in 1904, in a study of the "Chronic Affections of the Lacrimal Sac After Extirpation of the Same," found in 49 cases examined, simple stenosis without true cicatricial obliteration of canal in 9, obliteration of canal at superior strait with patency of lumen below obliteration point in 3, inferior obliteration of canal more or less extensive in 16, and total obliteration of canal with reduction to fibrous cord in 13. This report would seem to prove not only the inadequacy, but the positive uselessness of the probe treatment in many instances and demonstrates the necessity for more radical measures to effect a cure.

In conclusion, it may be of interest to briefly consider the changes that take place in the lacrimal gland following extirpation of the sac. The troublesome lacrimation gradually disappears, not from atrophy of the gland, but from removal of the constant irritation set up by the disease. The gland recovers its normal function, which, unless influenced by irritation, excitation or reflex processes, is that of inactivity. As Greef[5] concisely puts it, "The conjunctiva itself is a flat gland which keeps itself moist; the lacrimal gland is an irritating apparatus which usually is not active."

100 State Street.

4. Basso, Anni di Ott., 1904; Abst. Jour. E. E. N. & T. Dis., 1905, p. 102.
5. Greef, Trans. Ger. Oph. Soc., Heidelberg, 1902.

ILLINOIS MEDICAL JOURNAL

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APRIL, 1907.

COMMERCIAL TENDENCIES OF THE PROFESSION.

Probably nothing so threatens the usefulness of the medical profession as the prevailing tendencies toward commercialism. So great has become this evil that recent writers, both medical and lay, have taken occasion to call attention to it. Dr. L. Emmett Holt of New York, in a recent article on "Medical Tendencies and Ideals,"[1] takes up this subject in a most appropriate manner, and this article should be read by every practitioner in America. It is difficult to select any part of this address for publication, as it should be read in its entirety; however, we give a short extract, and with it a short extract from an address of Dr. Maurice Richardson of Boston, given recently at St. Louis, and, finally, an editorial article from the *World's Work* of September, 1906. We commend these extracts to the thoughtful consideration of all our readers.

COMMERCIALISM.

Of the prevailing tendencies in medicine the one most to be deprecated is that of commercialism. It is perhaps not surprising that our profession, in common with other callings, should feel the baneful influence of this spirit of our age. It is only another evidence of the fact that, in the public mind, material and financial success has come to over-

1. Journal A. M. A., March 16, 1907.

shadow every other form of achievement. Our times have witnessed many examples of the debauching of the legal profession to attain unscrupulous corporate laws. The law, it is said, has almost ceased to be a profession and has become only a business, adopting business methods and business standards. May this never be true of medicine. It is perhaps not to be expected that human nature should be changed by attaining the dignity of writing M.D. But, inasmuch as the traditions of the medical profession are nobler and its responsibilities more sacred than those of most of the professions, the more to be deplored is the spirit of which we are speaking.

Dr. Maurice Richardson says:

The physician's devotion to his patient should be regardless of prospective fees. His responsibilities are never greater than when he is treating the breadwinner of a large family. Indeed, it seems to me that the physician is at times in duty bound to respond first to the urgent call of the poor, because the rich have a choice of physicians which is practically unlimited. The experienced physician knows but too well that in many instances he will be imposed upon; but I think that he should, nevertheless, be too high-minded to object to imposition if thereby some perhaps innocent patient is to benefit. The general practitioner has under his care all the time wives and children who would be the first to suffer if he should decline his services on account of the acts of the father. So it is when one feels himself unfairly treated and refuses to render services to patients innocent of these acts. When, in spite of constant devotion and care, you are abused and criticized, you must remember that the majority of patients know no better. Nothing should trouble you less than such criticisms if your conscience is clear.

SURGEONS' AND PHYSICIANS' FEES.

The best part of the people of the United States are those families that are self-maintaining and self-respecting, being neither poor nor rich —the well-to-do class. They do most of the work of society and they carry most of the burdens. They receive also most of its benefits and its best service of most kinds. But it has become difficult for this class to receive the best medical and surgical service; for, as a rule, as soon as a physician or surgeon becomes famous, he sets his fees so high that none but the rich can pay for them, yet the poor have the services of most of the best surgeons and physicians free, in the hospitals. A self-respecting, well-to-do family must be content with less famous men or impoverish themselves for a time when illness overtakes them. True, some famous physicians are not better than many obscure ones, but reputation is the best measure of skill that the lay public has, and there is always danger in intrusting one's self to an unknown practitioner.

Yet it would be unjust to make a sweeping condemnation of the profession for "capitalizing" its success; for most skilful physicians give a larger part of their time and practice to the poor without any financial reward than men of most other professions give. Still the hardships that the very best class of people suffer become greater as the number of the

rich increases. A pauper and a millionaire may have a dangerous operation performed by the most skilful surgeon in the community. But a self-respecting man of a moderate income who, by any proper measure of men, may be of more value to the community than either the pauper or the millionaire, must take a greater risk at the hands of a less skilful surgeon. This condition violates the spirit of the best social service, and the commercialism of the profession has, to this extent, run away with its ethics. Medical societies might reflect that the scandalous fees of some practitioners are undermining the character of the profession; of that there is no doubt.—*The World's Work,* September, 1906. Doubleday, Page & Co., Chicago and New York.

HISTORY OF A CASE OF TUBERCULAR PLEURISY TREATED BY CHRISTIAN SCIENCE METHODS.

There recently died in central Illinois a prominent attorney who had been a firm believer in Christian Science methods and an active emissary of the Mother Eddy doctrines. In view of all that has been said and written concerning these faddists, we have thought it advisable to give a history of this case for the benefit of our readers and the public in general.

Mr. X. was an intelligent, highly educated, hard-working man of good family. There was some history of tuberculosis in the family, and his father is said to have been peculiar. Mr. X., while a college student ten or twelve years ago, was told he had pulmonary tuberculosis; advised to leave school; live out of doors; and take nourishing diet. He did so and improved. About this time he became interested in Christian Science, and to Christian Science was given all the credit of his improvement from out-of-door life and nourishing food. Then followed a period of school teaching and study of the law, he being finally admitted to the bar, and beginning the practice of law. His researches in Christian Science had become so deep by this time that he came to be listed as a "reader," which is the next thing to being a "healer," and was the leader of the sect in his city. He finally married, and his wife, at his earnest suggestion and teaching, espoused Christian Science. Many others of their friends were influenced by his enthusiasm to believe in this doctrine. A child was born recently, the confinement being conducted under Christian Science doctrine. Both parents claimed there was no suffering or inconvenience at any time, and this made a profound impression on the community. About this time, however, the health of Mr. X. began to fail. He became pale and emaciated, although remaining in good spirits and actively at work. All the time he claimed there was nothing wrong and no suffering. It has developed, however, that he had remained in his bed with a hot water bottle at his side. He must have applied to the Chicago Science healers, for almost daily messages came conveying cheering news and he was evidently receiving absent treatment. This continued up to about a week prior to his death, when one of their healers with a Science nurse, both women from Chicago, appeared and took charge of the case, excluding all members of the family, excepting the wife, from the sick room, and began the active Christian Science treatment, which continued to the time of death. No one knows what it was, as no one was allowed to see him, not even his own mother, till the morning of his death, when his mother

forced her way to the room. At this time one of the healers announced that the trouble was acute pneumonia. We are told that one of the healers was a graduated physician, and made that diagnosis. During the day he became so bad that the family insisted that they call a physician, which was done, regardless of the other healers. The physician, on going to the sick room, saw at once that the man was dying, and when he announced to the patient that he could not live thirty minutes the patient replied, "I am going to get well. I am all right." He was in full possession of his faculties to within one-half minute of his death, which occurred about fifteen minutes after the doctor's arrival. Of course, nothing could be done, and the doctor refused a certificate, knowing nothing as to the cause, and the Science people would tell nothing. The evening of the death an autopsy was held, which revealed the following:

A well-proportioned body, bluish discolorations of the skin, which was said to be present before the death. On opening the abdomen, the liver was found to be displaced downward. The lower border reached to the crest of the ileum, intestines filled with gas and serous effusion; otherwise abdominal organs were normal. The right thoracic cavity contained a little over three gallons of straw-colored fluid. The right lung was so compressed that it could easily have been placed in a pint cup, and displaced to the left of the median line. The lower lobe was the seat of acute inflammation. The pleura was inflamed with foci of pus. The left thoracic cavity was partly normal, yet displaced to the left in the ninth interspace near axillary line. Apex of left lung showed small scar, probably seat of an old trouble ten or twelve years ago, but now perfectly healed. The case was a typical one of pleuro pneumonia with a large effusion. Death due largely to carbonic acid poisoning, due to marked compression of breathing space.

The physicians felt that proper care and treatment in the beginning would have resulted in the cure of this case. They could hardly understand how a human being could withstand the torture resulting from this compression as heroically as did this man. Even with the full facts of this tragedy before them the advocates of Christian Science remain true to the principles they profess. Pity rather than censure should be allotted to these misguided people. They come, some of them, from the best and most intelligent people in the community, and it is to be hoped that the time will come when they will awaken to the enormity of their mistake. If such methods of treatment were pursued by the medical profession the state would be aroused against the doctors from one end to the other, and if the Legislature were in session the speaker or some other intelligent member would introduce resolutions of denunciation. But as these things are done in the name of science and Christianity, of course, there is no complaint.

THE KENTUCKY JOURNAL CLEANS ITS ADVERTISING COLUMNS.

The editor of the *Kentucky Medical Journal*, the official organ of the Kentucky State Medical Society, informs us that his journal has adopted the rule of accepting only advertisements for those preparations that have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.

The *Kentucky Journal* realizes that this action will result in a temporary loss, but knows it will do so much good for the profession and people whom it serves that there should be no hesitation in the matter. The Illinois and California journals having already taken this stand, an active campaign will at once be commenced to induce all journals to take a similar position.

ILLINOIS COMPLETELY ORGANIZED.

Secretary Weis informs us of the organization of a society in Franklin County, which completes the organization of the State Society in every county, and for the first time in its history the State Medical Society of Illinois may be said to be complete. Some twenty-two members of the profession in Franklin County belong to a local organization, eleven of whom are connected with the State Society up to this time. Undoubtedly the remaining members will see their way clear to come into the state organization in the near future.

This makes the total membership of the State Society in good standing at this time 4,514, giving us nine members and nine alternates in the House of Delegates of the American Medical Association. Four years ago our membership was but 3,700, showing an average net growth of 200 per year. The steady growth of the society is a sufficient answer to those members who have predicted a loss of members from the various enterprises undertaken by the state society in the past four years, including the protective feature adopted at the last meeting. Now that the success of the organization is established, we expect to see a much larger growth during the coming year.

The state societies having the largest membership are: New York, with 11,982 physicians; membership of the state society, 6,000.

Pennsylvania, with 9,957 physicians; membership of the state society, 4,693.

Illinois, 9,419 physicians, with membership of the state society, 4,514.

Ohio, 7,710 physicians, with membership of the state society, 3,700.

THE VIAVI TREATMENT, ITS PROMOTERS AND ITS LITERATURE.

Some months ago we devoted a few lines to the Viavi treatment and were immediately beseiged by the agents and promoters of this remarkable concern to retract the statements made in that publication. We promised them to give this subject due consideration and immediately referred the matter to the editor of the *California Medical Journal*, Dr. Phillip Mills Jones, whose activity in connection with exposure of all proprietary preparations has made him known to every medical reader in the United States. Dr. Jones being located at San Francisco, the headquarters of Viavi, was able to give this matter all the attention that it deserved, and through his courtesy we are enabled to make the following statements concerning the Viavi treatment.

It is only necessary to correct one mistake, and that is to say that the Viavi preparation does not contain any opiate, as was stated in the previous article. As will be shown in the investigations made it not only does not contain any opium but does not contain much of any other drug. It seems actually so free of medicine as to be inert. The following is an abstract of the full article as sent by Dr. Jones:

Viavi was first promoted by two men by the name of Law and began its career about twenty years ago. One of these brothers seems not to have been a graduate of medicine, the other appears to have graduated in 1893 at the Hahnemann Medical College of the Pacific, a college whose faculty embraces twenty-one professors, one associate professor, twelve lecturers and five demonstrators, in all thirty-nine instructors, and had during the session of 1904 and 1905, thirty-five students, or a few more instructors than students. Beginning with a very small capital these gentlemen by the promotion of the Viavi treatment have become among the most prosperous business men in the city at the Golden Gate. One of the brothers attached himself to the Young Men's Christian Association, and is at this time an officer in that organization. The other was offered a large sum to become adviser to the management of one of the large banking institutions of that city, but could not spare the time from his own affairs. As a result of the promotion of the "original idea" announced by these gentlemen they have been enabled to become possessors of palatial buildings and holdings valued at millions.

The "idea" found its material existence in what is known to the promoters as the "Viavi treatment," and in its essence is so simple as to pass recognition. After reading the Viavi treatment hereafter referred to, and after statements made to us by Dr. Law, in our opinion the merit of the treatment consists in the well-known principle of the vaginal douche. To be sure the real idea, the douche, is masked about and hidden under Viavi capsules and Viavi cerate and Viavi royal, and almost innumerable other Viavi stuff, with curative powers apparently unlimited, as appears from the statements of the promoters hereafter set forth. Other things were cultivated as the territory enlarged under the brilliant management of the promoters, but the original source of the golden stream seems only to be the vaginal douche.

Most women suffer more or less from their reproductive organs and a very considerable amount of this discomfort or suffering is due to lack of common sense cleanliness. And that, as we understand it, is exactly what the agents of the Viavi are eternally preaching; it is almost every other word which is in the documents the concern puts out; keep the vagina clean by the use of the douche, and use a little common sense. The immediate increase of personal comfort and many times the quick relief from some annoying minor ailment which follows upon the exercise of cleanliness and common sense might so hypnotize the average woman who accepts the Viavi preachments and takes the Viavi treatment, that she would be ready to believe anything almost that the promoters care to tell her. But of course no large paying business could be built up by simply selling a little good advice and a trifle of common sense. There must be something definite to take, some wonderful secret and very costly medicine that will work the result, to secure which the douche is but the merest preliminary. Hence the capsules and the cerate,

and the liquid and the royal, and the rest of the wonderful remedies which collectively leave little uncured or uncurable by Viavi.

Do the Viavi remedies contain morphin or opium or some habit forming drug? (JOURNAL, 1906.)

The very question which we asked was bitterly resented by these gentlemen. They claimed it was a reproach to their self respect even to intimate that they who seek to alleviate the pains of suffering humanity in general could trade upon human life and character by selling to innocent people habit-forming "dope." They sent us copies of all sorts of certificates from analysts showing the absence of any harmful drug. And furthermore, upon reflection we came to the opinion that from the purely business standpoint it was unnecessary to put an expensive article like morphin, and one liable to bring about trouble in the future, into their remedies when they do not need to. We need no further enlightenment and accept the statement that the preparations are free from morphin, etc.

"Were the Viavi remedies used for the prevention of conception or the procuring of abortion?" This query was even more horrible to the promoters than was the former question. The very thought that such objects or purposes could be attributed to them was most painfully distressing to the Messrs. Law, and they felt keenly injured in their self-respect. They assure us in every way by the spoken and written word, that so far from their having ever advocated the repulsive measures suggested their greatest joy in life is to feel that through the benevolent action of their remedies, they have aided thousands to become fruitful and have made the barren woman conceive and bring forth.

We may safely assume that the Viavi treatment is free from opium, morphin, etc., and that the promoters do not encourage the practice of preventing or aborting conception. Such being the case, the question very naturally presents itself: "What is the Viavi treatment, what does it do, and what do the promoters say of it; how do they present their claims, and what do they claim?" The original treatment was directed wholly to the afflictions of women, if we are not mistaken, and consisted of good advice, cleanliness, the douche, and a capsule which was to be placed in the vagina preferably high up and touching the cervix. Later a cerate was made, the argument being that the vagina could not absorb enough of the wonderfully curative remedies contained in the capsule, so they were incorporated in the cerate, which was to be rubbed into the back and belly. Still later a liquid, also possessing the marvelous properties of the capsule and the cerate was put out. At the present time, there seems to be in addition to the three forms mentioned, Viavi Royal, Viavi suppositories, Viavi tablets, Viavi eye treatment, Viavi ear treatment, Viavi tonic, and Viavi laxative.

As to what it is we confess ourselves a trifle at fault. The manufacturers speak of their various preparations as though the great Viavi were an entity, a special and particular substance created for the purpose of being incorporated into all of their various mixtures, of which it becomes the essential and universally curative base. On the other hand, a firm of analytical chemists reported recently, as follows: "The capsules contain no morphin, and so far as we are able to determine, they contain nothing but the extract of hydrastis and cocoa butter." Here is a difference of opinion. As all of the preparations are said to contain "the great Viavi," and as this one is reported to contain nothing but hydrastis and cocoa

butter, we might possibly be excused for holding the belief that hydrastis enters into all of these wonderful compounds and is the multifarious curative agent; or else that the identity of "the great Viavi" changes as it enters into the different preparations.

Local offices are provided in all the principal cities and are presided over by trained specialists in diseases of women who have larger experience with these diseases of women than any other specialists could possibly have. We understand Viavi is promoted by over 3,000 trained promoters.

Examination of patients is entirely unnecessary by the Viavi treatment, the patient makes her own diagnosis, or if a blank health statement is procured, filled out and returned, competent advice will be given upon it.

In one pamphlet we read that "A distinctive feature of the Viavi treatment is the permanency of the cure," while in another we are told that "It is one thing to make a cure complete; it is another to make it permanent. Of course, we can not insure against a recurrence of disease." Of course not. The proprietors of the Viavi treatment not only maintain that their agents are competent to suggest the proper treatment without examination of the patient, and that the omnipotent wisdom of the officials of the home office (or some other) can give competent advice "by mail, but they refer in greatest horror to physician, gynecologist and surgeon," intimating that more harm than good always results from obtaining professional advice from licensed physicians. The gynecologist is referred to as the "body carpenter," and his work as "sacriligious carpentry." We are told by the Messrs. Law in their publications that operations "for the removal of a diseased breast rarely or never prove entirely successful," and that "extirpation or removal of diseased tissue by surgery is worse than useless. A very large proportion of women's diseases were really incurable until the Viavi system of treatment was introduced."

"As for the influence of physicians with regard to the Viavi system of treatment, while many of the broader sort heartily indorse the treatment, some may be found arrayed against it, and ready to condemn it if their opinion of its merits be sought." (It would be interesting to know the names of "many of the broader sort" of physicians who indorse the Viavi treatment.)

"Everything connected with Viavi tends to bring women into a closer relationship with Nature and Nature's God." "Curetting, the ordinarily prescribed treatment for flooding (metrorrhagia), has been rendered obsolete by the Viavi system of treatment." "If the disease is in the form of tumors or polypi in the womb, she will be advised sooner or later, unless she adopts the Viavi system of treatment, to submit to an operation in which her abdomen will be cut open on the median line and the symmetry of her figure destroyed; perhaps she will be advised to submit to the removal of the womb. The Viavi treatment renders all these measures wholly unnecessary."

"The remarkable effectiveness of the Viavi system of treatment places it in the power of healthy wives to limit the number of their offspring for proper reasons, and women who are not fit for maternity to avoid it by natural means." What was it we asked about Viavi being recommended for the prevention of conception?

"Ovarian tumors, uterine tumors, whether inside the cavity, in the

walls or outside the walls; tumors of the vagina and Fallopian tubes; fatty, cystic or fibroid tumors; in fact, tumors of all kinds in all parts of the body, have been treated successfully by the Viavi method." The Young Men's Christian Association must take great pride in itself when it realizes that one of the gentlemen who voice this statement is on its board of control, for is not his modest plea calculated to draw shekels from the pockets of poor suffering women in an anxious pursuit of health?

Nor is it only suffering women who may find relief at the hands of these gentlemen, these prominent citizens of our community who have grown from poverty to affluence, by exploiting the Viavi treatment. They do not hesitate to hold out encouragement to man when he contemplates the loss of his proudest possession, his testicles. For a monetary consideration not stated, the Messrs. Law will give the wonderful Viavi treatment to men afflicted with atrophy of the testicles, and hold out the encouraging intimation of a probable cure.

We recall particularly the case of a man suffering with wasting of the testicles, who secured perfect recovery from Viavi cerate applied to the scrotum. Note the keenness of the wording: The man "secured perfect recovery from the cerate," not from the wasting of the testicles!

Indeed, the keenness of the verbiage is one of the most remarkable things about the Viavi literature, and is but another of the indications of the commercial acumen of the promoters, the Law Brothers; for some years they employed, at no small expense, one of the cleverest writers on the Pacific Coast. Such work as theirs was not to be left to the ordinary "patent medicine" circular writer; their literature, like their "treatment," must be unique, distinctive.

We are told with the greatest air of frankness that appendicitis, paralysis, paresis, locomotor ataxia, asthma, palsy, "and many more proceed from a depletion of nervous force—from nervous debility." While we are nowhere told that all of these conditions can be cured by Viavi, we are told that nervous debility may be prevented or cured by it, and the natural implication, so subtly conveyed by the clever writer, might well produce the result that the poor incurable is parted from his coin; or the person with appendicitis is deluded into giving up, perchance, his life.

The London *Lancet* for March 10, 1900, and Jan. 17, 1903, pays its respects to the Viavi company. In the first-mentioned issue, it commented upon certain facts which came out at an inquest held Feb. 25, 1900, by the coroner of East Sussex, upon the body of a woman who had died while under treatment by the Viavi system. The jury handed in the following verdict:

"We wish to return a verdict of death from natural causes; we also think that the life of the deceased might have been prolonged had she been placed under properly qualified medical treatment, and from the evidence brought before us, we consider the Viavi company a fraud." In another case heard before His Honor, Judge Parry, in the Manchester County Court, on May 17, 1901, the same fraudulent parties had to pay fifty pounds with costs for breach of contract, i. e., for failing to cure.

Yet of such is the business of the "Viavi" constructed; a business which has made two men, starting with practically nothing, affluent. Their patrons consist of confiding sick and suffering women, to whom, not skilled in medicine, their literature appeals.

A GREAT FIELD FOR LABOR.

The following editorial appeared in the *Medical Sentinel*, Portland, Oregon, March, 1907:

All is not as serene as it should be in the State of Illinois. It is true that it is the home of the headquarters of the American Medical Association; here the energetic secretary-editor, Dr. Simmons, lives and breathes forth every week the gospel of unity and organization. But we have no less an authority than Dr. McCormack stating that, notwithstanding this beneficent influence, notwithstanding that "the laws are stronger and need to be perfected only in detail, the officials charged with their administration are most excellent men personally and professionally, and yet ground has been steadily lost until, probably to an extent not true of any other state in the Union, it is a veritable paradise of quackery in every form." Dr. McCormack says further:

"The secretary of the State Board of Health wrote me that he is sure that he has back of him the support of the rank and file of the profession, but I found constant evidence that he is mistaken on this point, and this opinion was confirmed by those to whom he referred me for information. The more or less open antagonism between the leaders of the state society and the board has begotten the spirit of apathy and hopelessness about improving and enforcing both the medical and health laws almost coextensive with the state, and with such a state of affairs it ought not to be surprising that the united forces of quackery have an easy time of it."

All of which leads one to observe that what looks as though it might be a golden road to success in almost any line of endeavor often turns out to be a mud road to failure. Many of the measures taken by the organization have been wise beyond a doubt. The education of the public along the lines of prevention of disease is certainly a proper measure. The hardest thing to accomplish, apparently, is to convince the public that the medical profession, in its constant efforts to secure public legislation in every state, preventing fraud on the part of quacks, is actuated by motives of altruism, and not by the motives of selfishness. This is the hardest work that presents itself to-day to the profession. It often happens that state boards of health not composed entirely of medical men are semi-political in their character and they are liable to play to the galleries. Good laws are not enforced. Venal newspapers that are interested in securing advertising regardless of its being fraudulent or not, sympathize largely with the men who bring them dollars, if even those dollars are coined out of the sufferings and woes of a deluded patent-medicine-buying public.

It is not enough to enact laws. When this is done a step has been taken in the right direction, it is true, but there must be a public sentiment back of such laws or they can not be enforced. When one gazes at the rock-ribbed ignorance of the general public in such matters; when one realizes that nine grown people out of ten are willing to diagnose their own ailments, and prescribe for themselves from the shelves of the patent-medicine side of the drug store or corner grocery, one sees what an

enormous task there is before somebody to bring order out of chaos. There is no state in the Union where politics is played to a greater extent than Illinois, and to this fact is partly due, perhaps, the fact that Dr. McCormack finds discouragements there, and his letter regarding medical affairs in that state indicates something akin to blank despair on his part.

Scientific Editorial.

OPSONIC INDEX AND VACCINE TREATMENT OF INFECTIOUS DISEASES.

The vaccine treatment of infectious diseases under the guidance of the opsonic index has been assuming recently a great deal of importance. Hence every practitioner who wants to keep up with modern medical progress ought to become familiar with the principle underlying this new therapeutic method, so that he should be able to determine when it might be employed with advantage for the benefit of a patient. It should, however, be pointed out at once that this method imperatively requires such an intricate, painstaking technique that it can only be carried out properly by specially qualified laboratory workers. If the delicate, laborious details of the procedure are to be sacrificed to a rapid, empirical, routine method of vaccine injections, serious harm would surely come to and discredit a treatment which at this time appears to promise much.

The principle underlying the vaccine treatment under the guidance of the opsonic index may be briefly summarized as follows: Certain white blood corpuscles and other cells of the body (endothelia) are enabled to take up and destroy bacteria. This process is called phagocytosis. As appears now upon a well-established experimental basis a leucocyte can only take up and destroy a bacterium after the latter has been acted upon by certain bodies which are contained in the blood serum. These bodies, which probably attach themselves firmly to the bacteria, so change, weaken or damage, at all events so prepare them, that subsequent phagocytosis becomes possible. Wright has called the substance in the blood serum which prepares the bacteria for phagocytic destruction opsonins, from the Latin verb *"opsono,"* "I prepare food for."

It can be shown experimentally that if we mix human leucocytes with human blood serum from a healthy individual, and a suspension of certain bacteria, for example, tubercle bacilli, the leucocytes within a given time take up a certain number of tubercle bacilli. It can further be shown that if we make a number of such tests under exactly the same conditions, with the serum from, say, twenty different healthy persons, approximately the same number of bacteria are taken up by phagocytosis. In other words, no tubercular healthy persons have approximately the same amount of opsonin in equal amounts of blood serum. The average value for a number of healthy non-tubercular persons is called the normal opsonic index and is generally designated as 1.0. If we now examine the

blood serum of a number of persons with known tubercular lesions of certain types, such as local bone and glandular tuberculosis, tubercular discharging sinuses, skin tuberculosis, laryngeal and ocular tuberculosis, etc., we generally find that it is much less potent in bringing about phagocytosis of tubercle bacilli. It is assumed that this is due to the fact that the blood serum of persons affected with local tuberculosis contains a lesser amount of opsonin than that of healthy individuals, and we then speak of a low opsonic index. So constantly has it been found that the opsonic index for tubercular phagocytosis is low in local tubercular infections that we can avail ourselves of the opsonic index as a diagnostic test for hidden, unrecognized local tuberculosis. Wright and others have shown that if we inject into an individual with local tuberculosis a very small amount of a vaccine prepared from the tubercle bacillus, for instance, Koch's new tuberculin, the opsonic index falls a little more and then rises, not only above the stage before the injection, but even above the index of a normal non-tubercular person. If now the blood serum is examined from day to day, it is ascertained that the index for a few days retains a relatively high degree, then it begins to fall. By a timely new injection a second and third rise, and so forth, may be brought about. Generally the condition of the patient markedly improves synchronously with a rise of the opsonic index, and, in fact, quite a number of local tubercular infections of long standing have been cured in a comparatively short time by this vaccine treatment under the guidance of the opsonic index.

It has also been shown that too small a dose may have no effect whatever, while too large a dose may bring about a rapid, steep fall of the opsonic index, not followed by a rise, and associated with an impoverishment of the condition of the patient. These observations show that the vaccine treatment can only be carried out correctly and advantageously under a constant supervision as to the opsonic index. Without the latter we are in the dark and we may do more harm than good.

To explain the good effect upon the course of the tubercular affection of properly dosed and timed vaccine injections is by no means such an easy matter as the interpretation of the test-tube experiment which furnishes the opsonic index. Whether the opsonins in the blood really lead to a more extensive phagocytosis in the tissues where the tubercular lesion is situated or not can not at this time be answered with any degree of certainty. But this is not so very important from the practical therapeutic standpoint. We definitely know, from what is now a considerable number of observations, that we improve, as a rule, certain local tubercular lesions and the general condition of the patient when we increase the opsonic index of his blood serum, and we are enabled to do this by a systematic course of vaccine injections.

The effect of such vaccine treatment in other but tubercular infections, such as staphylococcus, streptococcus, colon and other bacterial infections, though not yet as extensively studied as the former, has likewise been quite encouraging and the new vaccine therapy appears to have a very bright future. However, a warning should again be sounded; it is not yet

an every-day routine method, and it can confidently and properly be employed only when controlled daily by the opsonic index of the patient under treatment. We ought not to forget, in this connection, that the method of treating various forms of tuberculosis with vaccines is by no means a new one. We can see clearly now that the vascillating, uncertain results of former attempts at treatment with the different tuberculin preparations were largely due to the fact that we had no means to dose and time them according to a reliable objective sign. The latter we now possess in the opsonic index.

Editorial Notes.

THE OLD DOCTOR'S POEM.

Dr. J. M. Matthews, of Reading, Pa., recently read at a banquet of the Berks Medical Society the following poem, which, both because of the age of the author and the intrinsic value of the poem, we think will be appreciated by our readers. Dr. Matthews was born in 1817 and graduated from the Jefferson Medical College in 1840. No doubt his desire to remain on earth is shared by a large number of his colleagues who, after all, feel that the old world is a pretty good place for a prolonged sojourn.

WHEN I WOULD DIE.

I'm very old, yet would not die,
And have my bones in slumber lie,
Until I know some things are done
Whose doing is but just begun.
I'd like to know our eastern sea
Had kissed her western majesty
At Panama and Colon's gate,
And let our ships, both small and great,
Pass through Dame Nature's narrow strait.
Would then I die? Not yet, not yet!
My heart on other themes is set.
I'd like to see the airships fly
Athwart the clear or cloudy sky,
With or against all winds that blow,
With or against all rains or snow;
Sailing through the angry clouds,
Bearing safely human crowds
From place to place, from town to town,
Now high aloft, now coming down,
Now taking on, now letting go
Its hurrying crowds bent to and fro.
I tell you, Cap., I must be there,
By two o'clock, I must be there,
Some hours ahead of that slow poke
That belches forth its cinder smoke—
The iron horse whose murderous noise
Kills off the sick, the well annoys.
Some better is the trolley ride;
Ten times as good the airships glide.
And then you'd willing die? Not I:
You soon shall see when I would die.

I want to see all warring cease.
I want to see the reign of peace.
I want to see "Thy kingdom come,"
The thousand years millenium.
Then heaven will be upon this earth
And every creature have new birth.
Then, sure you'd willing die? But why
Would one in glory wish to die?
O wondrous, wondrous are to be
The achievements of futurity.

Correspondence.

DISCUSSION ON RECIPROCITY.

Editor Illinois Medical Journal:

I have read with a great deal of interest Dr. Egan's article on "Facts and Fallacies Concerning Interstate Reciprocity in Medical Licensure."

With the greater part of his contentions and statements I can thoroughly agree, but I must join issue with him in his statement and conclusions relative to the form of reciprocity adopted by the "American Confederation" and in force at the present time in some twenty of the leading states. This requirement, which provides for older and reputable practitioners, officially reads as follows:

PREREQUISITE CREDENTIALS.

As a prerequisite to reciprocal registration the applicant therefor shall file in the offices of the boards of the state of which he is a licentiate, and of the state where reciprocal registration is sought, such evidence of good moral and professional character as may be demanded by said boards, and such evidence, at the discretion of either board, may include proof of membership in a recognized medical society, and such membership may be considered in connection with the other evidences of character presented.

QUALIFICATION II.

A certificate of registration, or license issued by the proper board of any state, may be accepted as evidence of qualification for reciprocal registration in any other state, provided, the holder of such certificate has been engaged in the reputable practice of medicine in such state at least one year, and also provided that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in *good standing* in the state in which reciprocal registration is sought, and that the date of such diploma was prior to the legal requirement of the examination test in such state.

Dr. Egan, objecting to this qualification, states: "The adoption of such a qualification would mean that the Illinois State Board of Health would be compelled to license, without an examination, the holder of a diploma from a seemingly reputable medical college who obtained a license in any other state previous to 1899, on the presentation of a diploma, when the license was his for the asking."

Now, is this statement of Dr. Egan's covering the objection honest and consistent with the exact reading of the qualification? He states Illinois would be compelled to license the holder of a diploma of a seemingly reputable medical college. The qualification, on the other hand, states that applicants may be accepted, provided the diploma, at the date of

registration, was in good standing, and provided, further, that the applicant had been engaged in reputable practice at least a year after registration. In other words, under this qualification, the Illinois board could demand at this time as great a measure of qualifications as it demanded at the date of graduation and license up to 1899, and the applicant should have been qualified to register in Illinois at the date of his diploma, and this diploma should have been in good standing in Illinois at the date of its issue. Under this qualification the Illinois board is empowered to conduct as thorough an investigation of the qualifications of the applicant as it thought proper, and if in its judgment the applicant was not thoroughly qualified for practice in the state, both from the academic and ethical standpoint, it could, under Qualification II, refuse to endorse the applicant. The only material thing Qualification II concedes in this form of reciprocity is the board examination, provided the applicant had graduated from a recognized college prior to the requirement of a board examination in the state to which he goes.

As the Illinois board recognizes and lists several colleges in Chicago not generally listed by other first-class states, his worry relative to "seemingly reputable medical colleges" and his fear that his board may have to recognize them does not appear on its face consistent.

Dr. Egan states that the only persons advocating this provision for the older practitioner are those physicians who reside without the state and who wish to come into the state through reciprocity in this form and those physicians, residents of Illinois, who wish to obtain an endorsement in other states under this provision. He also states that he has never heard a prominent practitioner of Illinois raise his voice in support of this qualification, although this form of reciprocity has been advocated constantly for five or more years past by the boards which have adopted it. I do not see what better proof of its practicability and virtue could be had than by such boards' endorsement, and I do not also see why he should expect physicians who have no interest in the matter to advocate such a provision, or why the advocacy of this provision by physicians affected by it should have no merit. Personally I know several very prominent practitioners in Illinois who do advocate this provision. Dr. J. B. Murphy appeared at a meeting of the American Confederation in Chicago in 1903 and advocated it very strongly; Dr. J. N. Dodson, dean of Rush Medical College, in a communication to *The Journal* of the American Medical Association last September, also strongly advocated it. Perhaps Dr. Egan does not consider these men sufficiently eminent to include them in his definition of "prominent practitioners of Illinois."

Dr. Egan states that he has attempted to obtain an expression of opinion relative to the merits of this qualification from the Illinois licentiates and that he has so far obtained almost absolutely no endorsement from such a source. It must be noted, however, that the method by which Dr. Egan attempts to obtain such an opinion is not either a fair or an effective one from the fact that he does not state his proposition either fairly or squarely. His proposition to his licentiates is as clearly defective and misleading as his statement of the qualifications above quoted and criti-

cised. Let us prepare a proper and fair statement covering Qualification No. II and his results would be entirely the opposite of the opinion already obtained under his former improper method of statement. This qualification has been under trial by some of the leading states during the past four or five years and has proven itself to be a perfectly safe provision as well as a practical solution of the proposition accepted unanimously by the profession that some proper method should be had by which the older reputable physicians should come within the provisions of medical reciprocity between states. In this latter class are included practically 90 per cent. of all teachers in medical colleges and also includes practically all of the eminent men at present practicing in the several states. Is it a sensible and practical proposition to endorse the qualifications of recent graduates without additional state board examinations and refuse to endorse the teachers of these recent graduates?

The method of the Illinois board in allowing a discount of a certain percentage of the 75 per cent. required in an examination has much to commend it, but it is not practical at this time from the fact that the several state laws do not provide for this method, and, while the Illinois board may adopt the policy of usurping the functions of the legislature, other boards can not be expected to adopt this method in connection with their administration of state medical laws. The Illinois medical acts provide that officers of the United States Army, Navy and Marine-Hospital Service should be exempt from the provisions of the act only while in the actual discharge of their official duties. The Illinois board enacts over the legislature that, at the discretion of the board, this exemption can be extended and the proviso covering the actual discharge of official duties cut out. Nothing in the Illinois act provides for reciprocity, but Dr. Egan states that his board reciprocates under its "general powers," whatever this may mean. The supreme courts of the several states, however, do not regard the "general power" of a board with anything like the favor Dr. Egan attaches to it, and an enjoining suit would very effectively put a stop to reciprocity as far as Illinois is concerned, and the fact that such suit has not been filed can be explained on the ground that executive acts of leniency are naturally seldom subject to such suits.

The Michigan board is always very glad, indeed, to accept a good suggestion from whatever source it comes, but it believes in executing the medical act upon a strictly legal basis and, if the law is defective, to obtain proper amendments through legislative action. At the present time in the Michigan legislature certain amendments to the present medical act are being asked for, including the following proviso:

> An average percentage of at least 75 per cent. of correct answers on all of the subjects listed under this section, and of not less than 50 per cent. of each subject shall be required of every applicant; Provided, That in the case of a qualified applicant who has been in reputable practice at least five years, at the discretion of the board, this requirement of minimum percentage may be modified by the board to meet the exigency of the case.

Also another provision covering Dr. Godfrey's (secretary of the New Jersey State Board of Medical Examiners) suggestion of three or four

years ago, that a state should be empowered to accept and endorse the license of another state without the requirement of a reciprocal endorsement:

> The applicant may at the discretion of the board be registered and given a certificate of registration if he shall present satisfactory proof of the possession of a certificate of registration or license which has been issued to said applicant within the states, territories, districts or provinces of the United States where the requirement for said applicant's registration, at the date of his license, shall be deemed by the Board of Registration in Medicine to be equivalent to those of this act; Provided, That said applicant shall otherwise conform to the restrictions and regulations adopted and in force by the board relative to the recognition of, or the endorsement of certificates between states.

This suggested provision allows a board to require the reciprocal exchange of endorsement between states, but it is not a compulsory requirement, and in the event of a similar case to the case quoted by Dr. Dodson, of a professor in a Chicago medical college being unable to accept a chair in a state not in reciprocity with Illinois, Michigan can and would accept him under Qualification II, notwithstanding the Illinois board's attitude toward this form of reciprocity. All medical acts have in view directly benefits to the people and they should be administered to this end.

Finally, Dr. Egan imagines that every one, including medical boards and board members, who advocate the form of medical reciprocity represented by Qualification II, does so from some sinister motive, and that an attempt is being made, without qualifications, to break into his state. He should get over this feeling and adopt a broader and more liberal view of those who are forced to disagree with him.

B. D. HARISON.

Detroit, Mich., March 22, 1907.

DR. ENGLISH DISCOURSES ON OUR ADVERTISEMENTS.

GILLESPIE, ILL., March 10, 1907.

GEO. N. KREIDER, M.D., *Editor:*

Dear Doctor:—My ILLINOIS MEDICAL JOURNAL has just been received, and your editorial, "Our Advertising Pages," read, in which you invite doctors who so desire to air their opinions about the present contracts.

There are three or more in yet that, in my opinion, when the physicians have advertised them as thoroughly as they did A. K., will be sold and advertised direct to the laity.

I will begin at the first and name them as they appear and name those I am especially hostile to: Vitogen, put out by Harvey; their own detail men do not make any pretension to instruct the doctors of its contents. Antiphlogistine is fast becoming a household remedy. More expensive and less efficient than linseed meal, Exodin, Tonols, Urotropin, the very names smell to heaven, and doctors with whom I am associated know no more of their contents than they do of Peruna, and not so much. Cystogen-lithia is another secret remedy that can be made only by one firm. Altogether there is enough to nauseate a doctor who wants to practice medicine scientifically and legitimately. I would gladly double my sub-

scription to THE JOURNAL if these—what I think—abominable advertisements were refused.

Mr. Bok's "The Physician and the Nostrum," read before the Philadelphia County Medical Society and published in *The Journal A. M. A.*, most thoroughly impressed me as sound doctrine and most excellent advice for so many doctors to take. Respectfully,

J. N. ENGLISH, M.D.

COUNTY AND DISTRICT SOCIETIES

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

Meeting of Jan. 23, 1907.

Regular meeting was held Jan. 23, 1907, with the President, Dr. George W. Webster in the chair. In the absence of Dr. H. R. Gaylord of the Cancer Laboratory of Buffalo, New York, who was to have read a paper (by invitation) on "The Significance of Extracellular Organisms in Mouse Carcinoma," President Webster read a paper on "Medical Treatment of Hemorrhage." Dr. Henry Gradle read a paper entitled, "A Graduated Method of Removing the Inferior Turbinal of the Nose."

THE MEDICAL TREATMENT OF HEMORRHAGE.

GEORGE W. WEBSTER, M.D.

CHICAGO.

(Abstract.)

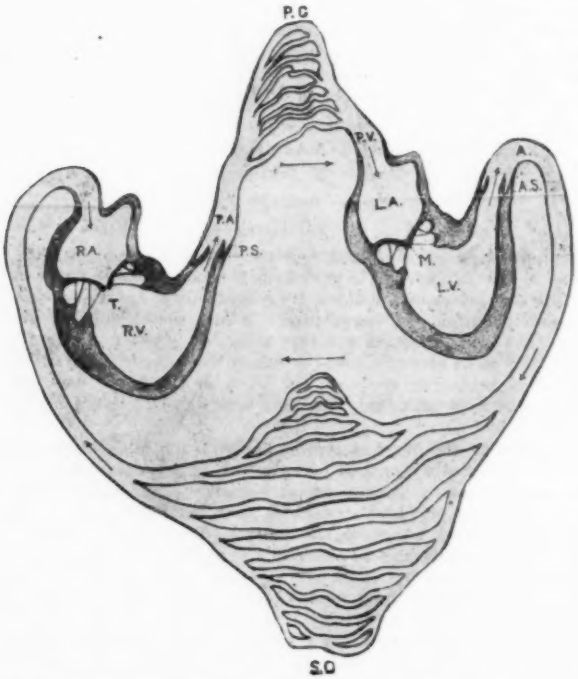
After referring to the conflicting opinions and diversity of practice at present indulged in by the members of the profession, the author briefly reviewed the physiology of the circulation of the blood, its coagulability, and the action of certain drugs upon circulation and coagulation. Before considering the treatment of hemoptysis, the author pointed out that a sudden lowering of the arterial pressure raises the venous pressure, that the veins of the splanchnic area are capacious and capable of holding possibly all the blood of the body; and that a rabbit whose sympathetic is paralyzed will die if suspended by the ears, as it "bleeds into its own belly."

The viscosity of the blood, according to Dr. John H. Watson, is about five times that of distilled water, and he says that it may sometimes in disease be ten times that of water. This increased viscosity of the blood favors its coagulation and increases peripheral resistance, thus tending to cause a rise in blood pressure and increased work for the heart. Lessening the viscosity tends to lower the blood pressure and to diminish the work of the heart. The viscosity of the blood is increased by excess of CO_2 in the blood, alcohol (Burton-Opitz), nitrogenous foods (Burton-Opitz, quoted by Watson), salts of calcium, strontium, magnesium (A. E. Wright), by anything which increases the blood corpuscles, by hydrastis, and by cold water baths, the hot-air bath, adrenalin, gelatin, alcohol, chloroform. The viscosity is lessened by a febrile temperature (Graham Brown, John H. Watson, Deming), citric acid and salts of potassium, sodium and ammonium (A. E. Wright), thyroid extract, iodids and the hot-water bath. The hot-water bath also raises the pulse pressure, i. e., the difference between the systolic and diastolic pressure.

The author presented a scheme which shows the agencies which affect the peripheral circulation. Blood pressure in the systemic circulation may be raised by stimulating the vasoconstrictors and by those substances which increase the viscosity of the blood. It may be lowered by acting upon the vasodilators and by diminishing the viscosity of the blood. Bleeding from the lungs occurs chiefly in two diseases—mitral obstruction and pulmonary tuberculosis—the latter disease furnishing 84 per cent. of all cases. As to the treatment of the former condition, clinicians are agreed that in certain diseases, especially the one under consideration and also in mitral regurgitation, the pulmonary blood pressure does rise and to such a height as to cause pulmonary hemorrhage, due

to engorgement in the pulmonary circulation, and that at this time the blood pressure in the systemic circulation is abnormally low. A glance at the following diagram shows how this is brought about.

The diagram shows the two sides of the heart separated to show the work of each. Either obstruction, or regurgitation at M. results in undue pressure in the left auricle; L A a rise in the pressure in the pulmonary circulation, this pressure continuing as long as the right ventricle (R V) remains normally active and there is no dilatation of the right auriculo-ventricular orifice, with consequent safety-valve action of the tricuspid valve. Because of the fact that the left ventricle (L V) receives less than the normal amount of blood with each auricular systole, the blood pressure in the systemic circulation falls, venous pressure rises in accordance with the law already quoted, the right heart becomes over-



filled and the pressure in the pulmonary circulation rises to the danger point. This also explains the fact that in obstruction or leakage at the mitral valve in the left side of the heart the hypertrophy occurs, primarily not in the left, but in the right ventricle. It must be apparent that the rational treatment consists in an attempt to get the blood out of the venous into the arterial side of the circulation where it belongs. The best remedies for this condition are absolute rest, mental and physical, morphin and digitalis.

What are the conditions in hemorrhage from pulmonary tuberculosis? The viscosity of the blood is below normal; the heart is increased in frequency; its efficiency impaired and the blood pressure low. The indications are absolute rest, in order to lessen the frequency and violence of the respiratory movements, increase the viscosity of the blood, and, if possible, lower the blood pressure in the pulmonary circulation.

The first two of these indications can be effectually met by keeping the patient in bed, lying on the affected side, the administration of morphin, ¼ gr. hypodermically, the giving of ten drops of chloroform in water, and later the viscosity of the blood may be increased by the administration of calcium and hydrastis and a meat diet. If these means do not avail, then recourse may be had to the hypodermic injection of 3 ounces of a 2 per cent. solution of fractionally sterilized gelatin, or the use of normal salt solution given in the same way. The author does not know how chloroform acts, except that it is a styptic and increases the viscosity of the blood, but he has had excellent results with it. In regard to the administration of other drugs, there is the greatest diversity of opinion. Thus Hare of London employs amyl nitrite, basing its use on the theory already described, that it causes dilatation of the systemic blood vessels and constriction of the pulmonary circulation. The author pointed out why he could not subscribe to this theory. In the interval between the attacks he employs syrup of Dover's powder instead of morphin.

The examination of the chest should be interdicted entirely, but if done at all, at the time of the hemorrhage, should be limited to auscultation, and this should be done in a manner not to disturb the patient. The semi-sitting posture should be assumed by the patient, as the horizontal lowers arterial pressure and leads to pulmonary engorgement. Thus these patients cough more and are breathless on going to bed, and patients with pulmonary engorgement due to cardiac inadequacy can not lie down. Strapping of the affected side may be resorted to after the first hemorrhage ceases, but the patient should not be disturbed enough to apply it while any bleeding is going on. Until the physiology of the circulation is written, much of the therapy of hemoptysis must remain empirical.

In cerebral apoplexy the conditions are usually a very high blood pressure together with degenerated vessels, and often an interstitial nephritis. In all cases the pressure is higher than the retaining power of the vessel walls. The immediate indication is to lower blood pressure so as to prevent further escape of blood. This is best accomplished by the administration of nitroglycerin and amyl nitrite, pushed to the physiological limit, always bearing in mind the evanescent character of their effects, lasting only about ten minutes. As soon as the pressure is brought down by these quickly acting drugs, and the hemorrhage has ceased, the lowered pressure may be maintained by the giving of strong purgatives like croton oil, the administration of those substances which diminish the viscosity of the blood, such as iodids, citric acid, the warm bath, aconite and thyroid extract and chloral hydrate. Chloral is especially valuable, as it lowers blood pressure, relaxes vascular spasm and causes sleep. For the same reason the diet should contain a minimum of the nitrogenous foods and should contain very little chlorid of sodium. The following are contraindicated: Calcium, ergot, adrenalin chlorid, digitalis, hydrastis, cold baths, iron, gallic acid.

In hemorrhage of typhoid fever the indications are to secure physical and mental rest and to arrest intestinal peristalsis and to limit the amount of mechanical irritation at the bleeding point, and to increase the viscosity of the blood.

In hematemesis the indications are rest, local styptics, morphin, adrenalin chlorid hypodermically and by mouth, gelatin, ice by mouth and locally, hydrastis, chloroform water.

In hemophilia he has obtained the best results from the long-continued administration of calcium chlorid. In one case he continued its administration over a period of nearly three years. During this time the hemorrhage which had previously been frequent and severe, especially from the kidneys, ceased entirely, robust health replaced a condition of chronic invalidism, the arthritic phenomena were vastly improved, and he was apparently cured. He lost track of the patient after three years.

As to epistaxis, when a patient of over 30 has recurring attacks of nosebleed without apparent cause, always examine the blood pressure and the urine, and

he believes one will find the cause in the majority of cases. The nosebleed does not call for treatment, but the condition on which it depends does call for prompt interference.

DISCUSSION ON DR. GRADLE'S PAPER.

Dr. Charles M. Robertson:—In operating upon the turbinated bodies the first idea is to ventilate the nostril by taking away enough tissue so that the turbinate, after it heals, shall resemble the normal turbinate. In nearly all cases where we have a deflected septum the turbinate on the concave side compensates for the deflection by being larger than it should naturally be. I have been doing graduated turbinectomies for a number of years, and I find that in nearly all cases the posterior end of the inferior turbinate is the part that undergoes hypertrophy first. We have very many cases in which the front end is nearly normal, whereas on the posterior aspect of the turbinal we have hypertrophy, which is really a myxomatous degeneration. This sometimes sticks out in the post-nasal space so as to resemble a cauliflower hypertrophy. This shield operation for this kind of hypertrophy would not do much good. Sometimes, with only four centimeters, which would be almost two inches, he cannot get at the hypertrophy to remove it, and consequently he has to use a snare. There are biting forceps which can be employed in doing this operation. I use the Myles instrument, which is really nothing more than an alligator biting forceps. With it you can follow in and bite off pieces of tissue, and see what you are doing. You can go through to the nasopharynx and bite off as small or large a portion of tissue as you wish. If you wish to bite off a small amount of the anterior end of the turbinal you can do so. You can do the same with the posterior end. There are cases in which the lower border of the hypertrophy is level; but many of them are hypertrophies which extend to the external wall; some curl up, so that it is impossible to put a shield in there and get the free edge of the turbinal. I have seen turbinates half an inch in thickness; others that were one one-sixteenth of an inch in thickness. These turbinates extend to the floor of the nostril in front, nearly all of them to the floor of the nostril behind.

Meeting of Jan. 30, 1907.

Regular meeting was held Jan. 30, 1907, with the president, Dr. George W. Webster, in the chair. Dr. Carl Beck reported a case of leontiasis ossea, and exhibited skiagraphs. The paper was discussed by Drs. Allen B. Kanavel, Peter Bassoe, and the discussion closed by Dr. Beck. Dr. Arthur R. Elliott read a paper entitled "Chronic Lymphatic Leukemia," and exhibited a patient with that disease. The paper was discussed by Dr. James B. Herrick. Dr. D'Orsay Hecht reported a case of "Basedow's Disease after Partial Thyroidectomy," and exhibited the patient. The case was discussed by Drs. Emil Ries, L. Harrison Mettler, and the discussion closed by Dr. Hecht. Dr. George F. Suker reported a case of tumor of the brain and showed the patient.

DICUSSION ON DR. BECK'S PAPER.

Dr. Allen B. Kanavel:—This subject is an extremely interesting one, and was brought to my attention a number of months ago by a case which occurred in my practice. At that time I looked up the question as to the etiology in relation to other diseases, and this case brings out some phases particularly noted in that investigation. The so-called leontiasis ossea, as reported in the literature, seemed to be divided into four distinct classes. In the first place, we can have a distinct type of the disease in which there is an apparent hypertrophy of a single bone. Secondly, we can have a division in which there is hypertrophy of half of the face. Thirdly, we can have a type of the disease in which there is a symmetrical hypertrophy of certain bones of the face. Fourthly, we can have that type of disease in which there is hypertrophy of the entire number of bones of the face and skull.

There are certain diseases which require differentiation from the local type of disease in which a single bone is involved. Horsley reported a case as leontiasis ossea, which, to all intents and purposes, was nothing more nor less than osteoma

occurring on the frontal bone. Pean reported a case in which a large tooth was removed from the tumor mass in the superior maxilla. This was probably an odontoma. A third isolated type of hypertrophy was reported by Le Dentu, in which he describes the lesion as somewhat similar to sarcoma, and maintains that the so-called cases of leontiasis ossea are similar to sarcoma. His differentiation is not clear. In support of his arguments he mentions histological examinations of specimens which he removed at that time. He says the tissues show a number of polyhedral cells, and in various areas giant cells can be differentiated. There are five or six cases in which histological examinations have been made, but which did not seem to show the same change. Le Dentu is the only one who described such a change in the bones. On examining the record which he made, one is prone to believe the first case which he described, which went on to rapid death, was an ordinary sarcoma. In the second case there is a possibility that the cells which he describes were nothing more than the ordinary cells which occur in bone tissue. The other types of this disease, in which there is hemihypertrophy of the face, and in which there is generalized enlargement of the face, are probably the most interesting of all. Hemi-hypertrophy of the bones of the face has been described in association with hypertrophy of the soft parts of the face, being associated with von Recklinghausen's disease. There are six or seven cases reported which cannot be differentiated from this disease. For instance, Lanz reports a case in which he mentions the appearance of enlargement of half of the face associated with large fibromatous masses, and described this case as one of leontiasis ossea, with fibroma molluscum. There are five or six other cases reported which present the same characteristics, but with less hypertrophy of the bones. I mention this to show the relation of the increase in fibromatous tissue and development of bone, suggesting an etiological relation between the two diseases.

Concerning generalized enlargements of the bones, several cases have been reported as leontiasis ossea which cannot be differentiated from acromegaly. In fact, three cases have been reported which should be eliminated from the report because of the fact that they show enlargements of other bones and are in every respect similar to acromegaly. So close is the relationship and so hard is the differentiation between the diseases that Zieglar has maintained that leontiasis is a partial acromegaly. One of the earliest cases reported was associated with enlargement of the fistulæ and enlargement of the hyoid bone. This would seem to be in all probability a case of acromegaly. In relation to this fact investigation as to the changes which have occurred in the pituitary body and pituitary fossa of the skull in various cases is of interest. But only two cases of leontiasis ossea, which have been observed during life and have come to postmortem, have been studied in relation to this particular fact. The case of Sattler, which was a beautiful demonstration of this disease, was observed over a course of fifteen years, and went through all the progressive stages of leontiasis ossea. At the postmortem examination it was found that the pituitary body was enlarged. No microscopic examination was made, however, at that time. In the case of Stack, there was no change apparent in the pituitary body, but the skull showed contraction in the pituitary fossa. So at the present time, with the data we have, we are unable to make an accurate statement as to the relation of acromegaly to leontiasis ossea, and hemilateral hypertrophy to von Recklinghausen's disease.

In a case reported by Allen Starr, there was hypertrophy of all bones of the head and skull, associated with large masses of fibromatous tissue upon the face; these masses hung down, and were associated with pigmented spots over the body. This was a case in which the changes in the bones were so extensive that it was considered a case of leontiasis ossea. This case presented by Dr. Beck, showing changes in the bones of the hands and of other portions of the body, emphasizes the interesting points which I have mentioned.

Dr. Peter Bassoe:—The case reported by Dr. Beck has interested me very much, because I have spent a great deal of time on this subject. I held an autopsy on a case in which there was leontiasis ossea, also a great many other changes. I had

occasion to look through the whole literature, and collected at that time forty-one cases, after throwing out some cases that plainly did not belong to that group. The case which I reported at that time in the *Journal of Nervous and Mental Disease*, September and October, 1903, was a remarkable one. The patient was a giant, eight feet and two inches in height. At the age of 9 years he began to develop enlargement of the left side of the face, and especially of the frontal bone on the left side. At the age of 18 he was reported by Dana as a case of giantism, with unilateral hypertrophy of the skull. Later on the hyperostosis of the skull increased, so that he developed symptoms of compression of all the cranial nerves. In this case there was also enlargement of the maxillary bone, which is so frequently associated with hyperostosis of the skull. The enlargement involved the skull first, and the jaw bones became enlarged secondarily.

When my case came to autopsy it had become extremely complicated. There was an enormous hyperostosis of the frontal bone. It was three and three-quarter inches thick, thicker than any of the skulls in the European museums referred to by Dr. Beck. There was an enormous enlargement of the superior maxillary bone. The bone was osteoporotic. The right half of the frontal bone and part of the maxillary bones were simply hyperostotic, showing histologically only loose bone. On the left side there was an osteosarcoma which had filled up the anterior and middle fossæ of the skull, lifted up the brain, and given rise to many pressure phenomena. The tumor had not invaded the hypophysis. There was no reason to believe that this man at the age of 28 could have osteosarcoma since the age of 9 years. He undoubtedly primarily had leontiasis ossea, or hyperostosis of the cranium; the sarcoma had developed later. It was a very malignant one as it was very rich in mitotic figures. Clinically it had been noted that some months or a year or so before death there was a sudden enlargement of the tumor, with extension into the subcutaneous tissue. It is true that many cases reported have been undoubtedly sarcoma from the start, and should not be called leontiasis ossea; yet in a few cases in the literature there is a similar history, as in my case, with enlargement of one side of the head, or a symmetrical enlargement of the skull since childhood. Within a year or so before death there is then a sudden growth of the tumor and sarcoma is found postmortem. It seems to me we must then assume that sarcoma has developed secondarily in the hyperostotic bone or its periosteum. In most cases there has been the association of hyperostosis of the skull with hyperostosis of the facial bones.

It would be interesting to know if there were any symptoms of cranial hyperostosis in this case. I would like to ask Dr. Beck as to the thickness of the skull. There are often symptoms, such as drowsiness from compression of the brain, or nerve palsies from narrowing of the foramina in the skull. In some cases, like in this one of Dr. Beck's, we have changes in the long bones. It is questionable, however, whether in such cases the leontiasis ossea is not merely a feature of a general bone disease. I am sure some of the cases that have been reported really belong to ostitis deformans or osteomalacia. It is a curious fact that leontiasis sometimes is associated with other diseases which also are rare, such as gigantism, acromegaly, and syringomyelia.

Dr. Beck (closing the discussion):—I have not made an extensive report of this case because I have not made microscopic and other examinations, which I will add before I publish the case. It is my impression, however, from the skiagraphs and from the symptoms that the frontal bones and the cranium in this case are much thickened, especially in some places on the forehead. I think that it is a case of leontiasis ossea alone, because there is a mixture of some other pathologic conditions. Furthermore, the condition of the fingers and the condition of the face do not correspond exactly with leontiasis, and perhaps a microscopic examination of the parts removed from the jaw, etc., will show a difference in structure.

DISCUSSION ON DR. ELLIOTT'S PAPER.

Dr. James B. Herrick:—All of these cases of chronic lymphatic leukemia are of great interest. This is the first case of lymphatic leukemia I have seen in a colored

person. As Dr. Elliott stated, the blood picture is the only means of differentiation between this form of disease and certain other similar diseases, such as pseudo-leukemia. Perhaps we are trying to do too much in attempting to differentiate between pseudo-leukemia or so-called Hodgkin's disease, and chronic lymphatic leukemia. The clinical picture in most cases of the two diseases is absolutely identical. The symptomatology and physical examination are exactly the same. Many pathologists also contend that anatomically there can be no histologic differentiation made between these two diseases. It is a question, therefore, whether the difference in the blood findings shows an essential difference in the nature of the two disease processes; the variation in the blood may, perhaps, be secondary or accidental in character. Some color is lent to this notion by the fact brought out by Ehrlich several years ago that in most cases of pseudo-leukemia, there is a tendency in the blood toward lymphocytosis. There may be no increase at all in the total number of leucocytes, but the proportion of lymphocytes is increased. In other words there is the qualitative change in the blood of chronic lymphatic leukemia, but not the quantitative. Further color is lent to this notion of the close relationship, if not identity, between the two diseases by the fact that a transformation in the picture of the blood has been seen by competent observers. Cases have been under observation for months as typical instances of pseudo-leukemia, when the blood suddenly is flooded with lymphocytes, and the picture is that of chronic lymphatic leukemia.

A chronic lymphatic leukemia, as a rule, presents the picture of a lymphocythemia, as shown in the beautiful specimens Dr. Elliott has under the microscope. There is an increase in the small cells, the so-called lymphocytes. Fraenkel, some years ago, reported a series of cases of acute lymphatic leukemia, and was inclined to believe the rule always held true that in the chronic cases we had the small-cell type, but in the acute cases there was an increase in the large mononuclear non-granular leucocytes. This is now known not to be true. I have seen cases of the chronic type in which large cells predominated; I have likewise seen cases of the acute type in which the small cells predominated, and there are cases of a mixed type. Sternberg, who has recently reviewed the subject quite extensively, found, on analyzing several scores of cases, that there was a good percentage in which the rule was violated, so that we can not now say that every case of chronic lymphatic leukemia is of the small-cell type, nor that every case of acute lymphatic leukemia is of the large-cell type.

Another point of interest, too, might be mentioned here. Sternberg believes that the two forms of leukemia, the small-cell and large-cell types (I am speaking now of lymphatic leukemia), are in their essence different; that we have in the small-cell type practically a hyperplasia of the lymphatic structures of the body—the lymph glands, spleen, bone marrow, and other lymphatic structures; that this form of disease is not, as some have contended, in the nature of a neoplasm. In the large-cell type he believes we are dealing with an increase of cells in the blood which are really abnormal, pathological cells, not the large mononuclear cell found in small numbers in normal blood, but a pathological cell that never in conditions of health is present in the blood. A second reason is that the lymphatic enlargements in general present atypical groupings of the cells. And, again, in this large-cell type there is a tendency for the cells to invade surrounding structures by the penetration of the capsule. In this large-cell type he finds, then, many of the characteristics of a neoplasm, and he groups the large-cell type of the so-called lymphatic leukemia under the head of leuko-sarcomatosis.

Yet we have to make a clinical distinction between the acute and chronic types, and ought, for the present at least, to be specific as to whether we have the large or small cell type to deal with. The difference clinically between acute and chronic lymphatic leukemia is remarkably striking, and one who has seen a few cases of the acute lymphatic form must see the resemblance between that and an acute infection, the case running its course in a few days or a few weeks, generally starting in with an angina, with a grayish exudate upon the tonsils, followed by rapid enlargement of the neighboring glands, prompt enlargement of

other lymphatic structures of the body, elevation of temperature often to 103° to 104°, a dry parched tongue, a hemorrhagic tendency, very marked and wonderfully rapid progressive anemia—a picture very strikingly like that of an acute infection.

I think Dr. Elliott is justified in urging the use of the *x*-ray in these chronic cases of lymphatic leukemia. The reports that have been made have been most favorable in cases of chronic lymphatic leukemia, and I recall one case I have seen many times at the Presbyterian Hospital. I do not remember whose patient it was; it was not mine. But this patient I examined soon after he began coming to the hospital with glands larger than those in Dr. Elliott's patient and with a perfectly typical picture of the disease. I saw him several months later, after *x*-ray treatment, when it was almost impossible to feel the glands, and I was told by those who were keeping track of the case that the blood picture was practically normal. Still in these cases of apparent recovery we usually find a little hint of lymphocytosis, still a little increase in the proportion of lymphocytes, and we should feel, as Dr. Elliott has said, that the case is perhaps not permanently cured.

DISCUSSION ON DR. HECHT'S CASE.

Dr. Emil Ries:—I would like to ask Dr. Hecht whether this patient has been receiving medical treatment since the operation?

Dr. Hecht:—Absolutely none.

Dr. Ries:—That is important, because what you see now in this patient can not be confounded with any result of medical treatment. If this patient has received no medical treatment since the operation, and has gained twenty pounds and improved in her general condition, the improvement can not be ascribed to the medical treatment. If she had received medical treatment subsquent to the operation, I have no doubt that the improvement might, by some men, be attributed to the medical treatment and not to the operation. I might also say that I regret that this patient was operated on by myself rather than by somebody else, because if somebody else had done the operation I should have complimented him on his success, but as I did the operation myself modesty forbids this.

If you will recall the description given of this case prior to operation, you have received a desolate picture of the patient's condition. This patient had received the benefit of the most approved and scientific medical treatment until she reached the very last and worst stage of the disease. Now, if a surgeon has any regard for his statistics, he would refuse to operate on such a case. I have no regard for my statistics, but every regard for my patient, and, therefore, I have operated on this woman. The case was a very hard one to operate on. The supply of vessels to this large vascular goiter was enormous. The patient's heart action was so rapid that I did not venture to give a general anesthetic except scopolamin. The condition of the patient three or four days subsequent to operation was not as surprising to me as it might be to an internist who has not seen a series of these cases after operation, because we usually see rapid heart action and high temperature after these operations. But the patient gets over that after a few days. The resulting improvement in the patient's general condition, as well as the improvement in the condition of the eyes, is very pleasant to one who has gone through such arduous and trying times as this patient has.

I have treated cases of Graves' disease with thyroidectin and other improved methods. I reported a case before this Society not long ago that was treated with thyroidectin with great benefit, the patient having gained forty pounds in the course of six months. But that patient committed suicide eight months after the treatment was begun. As soon as she quit taking thyroidectin she grew worse again, and ultimately, while in a depressed mental state, committed suicide. It would be very desirable to see these cases ten years after operation, and I hope that by that time we may have accumulated a few more cases. Finally, I wish to emphasize the point that we ought to get these cases for operation before they get into such a bad condition as this patient was.

Dr. L. Harrison Mettler:—Dr. Ries has been modest in congratulating himself on the excellent result obtained thus far by operation on this patient. I take much pleasure in congratulating both him and Dr. Hecht on the improvement in this case. As has been said, however, we can form no opinion of what is to follow, although we hope the improvement may be permanent. I rise to emphasize merely one point, to which Dr. Ries alluded in his last sentence when he said that these cases ought to be sent to the surgeon earlier. Perhaps this patient would have been better off if she had been sent to the surgeon earlier. However, judging from the reports in the literature, many of these patients get well without operation. My personal observation confirms this. In view of this fact, we are not yet in a position to regard exophthalmic goiter as a surgical disease, as some seem inclined to do. I wish to emphasize this point. There is no question in my mind, judging from the good results so often reported to have been obtained, that great improvement occurs in mild cases, and not infrequently in severe cases, from medical, hygienic, and other treatment apart from surgery. We should be rather slow to submit these cases to operation and should rather follow the course somewhat that this case has gone through. In this patient, however, medical treatment seems to have been of very little avail, in that very little or no improvement whatever was noted from it. This does not prove, however, that exophthalmic goiter is purely a surgical disease. I believe that we ought to submit these cases to operation only after we have given them what we consider a sufficient and satisfactory trial of medical and general hygienic treatment, because we do get good results from such treatment in a large number of cases, even in severe ones, and surgeons do not cure all of the cases they operate upon, but we have quite a number of fatalities to account for from operative interference.

Dr. Hecht (closing the discussion):—I tried my level best to present this case in as absolutely neutral fashion as I could. I did not care to side with myself or with anybody else in the belief that the result in this case is better than it actually is, and it is possible I may have underestimated the great improvement that has taken place rather than put it in its fairest light. I should say, however, in summing up, considering that more than ten weeks have elapsed since the operation was performed, this should be called an admirable result, for the resason that some of the subjective and objective signs have been put in abeyance by the operative procedure.

As to whether exophthalmic goiter is a surgical or medical disease, I believe it is not necessarily a matter of argument, as no one has claimed that it is entirely one or the other. But the argument of Dr. Mettler would somewhat point toward the view that surgical procedure should be a *dernier ressort* in these cases. I would oppose such a view, for the reason that we must, of necessity, respect statistics in this matter, and they tell us that the best results are obtained by operating on the cases early, and if a proper technic, other things being equal, is applied, then we have no reason to expect fatalities in the majority of cases. In fact, statistics do not show many fatalities from operations done by experienced and skilled operators. The question is not whether Basedow's disease is a surgical or medical one, but it is largely a question of appropriate treatment at the appropriate time, whether it be surgical or medical.

Regular Meeting, Feb. 6, 1907.

A regular meeting was held Feb. 6, 1907, with the President, Dr. George W. Webster, in the chair. Dr. Edwin Ryerson read a paper entitled "Gonococcal Arthritis," which was discussed by Drs. Joseph Miller, William Fuller, George W. Webster, Edward H. Ochsner, Victor J. Baccus, and the discussion closed by the essayist. Dr. I. A. Abt read a paper entitled "Infections of the Urinary Tract in Infancy." Dr. Edward H. Ochsner read a paper on "Osteoma Removed from the Vertebral Canal." In connection with the reading of the paper he presented the patient and the tumor which he removed. The paper was discussed by Dr. Thor. Rothstein.

DISCUSSION ON DR. RYERSON'S PAPER.

Dr. Joseph L. Miller:—I am glad to have had the opportunity of hearing Dr. Ryerson's paper on the surgical treatment of these acute cases of arthritis. We have all recognized for a number of years that the statistical results from surgical treatment have been superior to those obtained by medical treatment, when we consider that from 25 to 30 per cent. only of those cases that are treated medically have complete return of motion in the joint, while in something like 10 per cent. there is complete ankylosis and in the remaining cases more or less ankylosis. The condition in the joint is slightly different from ordinary acute inflammatory rheumatism, the large amount of periarticular inflammation present increasing greatly the tendency to ankylosis. We have a number of cases in which not merely the gonococcus is found, but the streptococcus, staphylococcus or the staphylococcus and streptococcus without the gonococcus. We have here a distinctly surgical condition. While there are infections produced by the gonococcus alone, still in many of these cases we have a mixed infection, and in such instances treatment by a specific serum or along the line of the opsonins does not hold forth good prospects of excellent results.

Dr. William Fuller:—Before referring to one or two of the many points of value in the paper presented by Dr. Ryerson I desire to say a word or two about gonorrheal infection as commonly seen by the general practitioner. Gonorrhea may develop, be treated and symptomatically cured as a local condition only. Again, a urethral gonorrhea may have associated with it local complications which will require an accurate differential diagnosis if the treatment is to result in permanent or even temporary good. For instance, if we have a local complication, such as epididymitis, orchitis, prostatitis, or a vesiculitis, it is absolutely necessary to make a differential diagnosis in these complications if we would expect anything beneficial from treatment.

When we come to consider the systemic phenomena of gonorrhea we must remember the fact that there are very few, if any, structures in the human body exempt from gonorrheal inflammation; and isolated cases of such inflammation involving a single muscle, a nerve, a tendon sheath and a vein have been reported. And this is precisely what is sometimes found on close study in the so-called arthritic joints. We may not have, even in the severest cases, the slightest effusion in the joint capsule, because there is no synovitis present; the inflammation or the infection involves the periarticular tissues, which may be in the muscles or tendons or other soft structures. If this be true, it seems to me that we gain nothing by aspirating such joints for diagnostic purposes, nor do we gain anything by injecting them for therapeutic purposes. It is very important to determine with exactness the location and particular structure implicated in the systemic complications of gonorrhea, and to treat them accordingly. If there is a synovitis or an effusion into the joint, then aspiration of the joint and the injection of it with something similar to what Dr. Ryerson has recommended is excellent treatment; but if the joint is not involved, a fact fairly easy to determine, it should be neither aspirated nor injected.

Personally nothing has served me as well in the treatment of gonorrheal joints as firm fixation of the joint, and the use of that appliance which will allow the application of very hot fomentations, and at the same time permit of a constant increase in the pressure around the joint; this latter point seems of great importance to me, and one which has never been neglected. Of probably just as much value as any one item in the treatment is the position of the extremity, which should always be that of extreme elevation, which will provide for perfect circulation in the inflamed part and is a source of great comfort to the patient.

With reference to the time a limb or joint should be fixed, Dr. Ryerson said, if I understood him correctly, that, if too prolonged, ankylosis would surely follow. Whether this always is true I can not say, but it should be remembered that passive motion in any joint where there is an acute gonorrheal inflammation present is always contraindicated, because of the fact that we immobilize the joint for its beneficial effect on this, as in all other forms of acute inflammation. Passive motion should not be attempted again, because this is one of the most

excruciatingly painful conditions met with; it is the one thing which should never be used till the acute condition has subsided, whether that is one week, one month, or longer.

Dr. George W. Webster:—Ten months ago I treated a patient who had acute gonorrheal urethritis and also gonorrheal arthritis, with Torrey's serum. This man had been under my care and in bed for three weeks. He suffered so intensely that he became quite emaciated. His temperature ranged, as it frequently does in these cases, from 102° to 103°, and his general condition was such that the consultant gave an unfavorable prognosis so far as the man's life was concerned. At that time I had given but one dose of Torrey's serum. The man received altogether six doses of this serum, and these doses were given on consecutive days. The serum, as you probably know, is concentrated, so that a small amount is given. His temperature became normal on the second day; the inflammation in the joint was markedly less; pain had almost entirely disappeared; at the end of five days the temperature was normal; he was perfectly comfortable; the effusion in the joint had almost wholly disappeared, and he was sitting up. On the eighth day from the beginning of this treatment, because of some business that it was necessary for him to attend to, he was able to go downtown on a street car. The results were beyond anything I had ever seen; it more closely resembled the rapid disappearance of diphtheritic membrane under antitoxin than any therapy I have ever employed. This is the only case in which I have employed this serum, but in it the results were simply marvelous. One wrist and both knee joints were involved, and these joints recovered perfectly, so that now he has perfect use of all these joints that were seriously involved.

Dr. Edward H. Ochsner:—It seems to me several of the statements made by Dr. Ryerson ought not to go unchallenged. First, in reference to the injection of Lugol's solution. I do not doubt that Dr. Ryerson has had excellent results in his cases, but we must not forget that very often when we employ a new remedy we get a series of excellent results. I heard Dr. Hoffa, of Berlin, speak upon this subject about a year and a half ago. He said that when von Bergmann's suggestion first came out he used the remedy and for a time seemed to get better results than by any other method, but that upon longer trial he found that the results were no better, and it seemed to him not even as good as by immobilization.

I have no quarrel with Dr. Ryerson as to what he says with regard to the Bier's constriction method or the Wright vaccination method, but I have to disagree with what he says in reference to immobilization. If we are going to immobilize we ought to immobilize sufficiently long, and if this is done I do not believe that immobilization is going to increase the per cent. of cases with resultant ankylosis. In order that we may have fibrous ankylosis we must, first of all, have abrasion of the synovial membrane. In order to have bony ankylosis we must first have abrasion of the joint cartilage. There is no one thing which prevents these abrasions so successfully as early complete immobilization. I do not believe an oculist would urge active and passive motion on the eyelids in order to prevent abrasion of the cornea in cases of gonorrheal ophthalmia. On the contrary, he uses a solution of atropin and keeps the patient in the dark in order to keep the lids as quiet as possible. Many years ago the classic work by Hilton on "Rest and Pain" was written, and we ought to remember to this day that one of the essential features in combating inflammation is by securing rest. After abrasion of the synovial membrane and the cartilage have once occurred I do not believe any amount of active and passive motion is going to prevent ankylosis.

Dr. Victor J. Baccus:—I wish to mention briefly my experience as gained from the treatment of ten cases of gonorrheal urethritis. My own experience corroborates that of Dr. Ryerson, so far as the injection treatment is concerned. I will detail two cases which will illustrate the value of injections in these cases.

The first patient, a woman, 22 years of age, was treated for gonorrheal arthritis. The treatment consisted largely of potassium permanganate, 1-5000. At about the fourth week she exposed herself, and I was called four days later and found her with the following symptoms: She had elevation of temperature; she complained of pain; there was progressive enlargement of the knee joint, so finally there was an enormous swelling of the entire knee. I would like to ask

Dr. Fuller and Dr. Ochsner what would they do in such a case. The patient's leg was immobilized for a week, but the condition became progressively worse. The swelling did not decrease; the pain was more intense; the temperature was higher. Under local anesthesia we aspirated the joint, removing about four ounces of pus. The pus was examined by Dr. Herzog, who demonstrated gonococci in the pus removed from the joint. We injected 3 per cent. carbolic acid into the joint, which was repeated twice at intervals of five days, and at the end of five weeks the patient walked out of the hospital in excellent condition. This patient was a physician, and the ankle and left knee were involved. In another case the gonococcus was demonstrated in the prostatic discharges, so that there was no doubt as to the diagnosis.

In these cases, where there is no empyema of the joint or suppurative inflammation, I do not think Dr. Ryerson would recommend washing out or irrigation of the joint.

Dr. Ryerson (closing the discussion):—With reference to the remarks made by Dr. Miller, that frequently in these cases there is a mixed infection, I will say that has not been my experience. My experience, however, has not been large. In only eleven cases of mine were microscopic examinations made, and in all of these gonococci were found; in several of the others, in which there was a cloudy fluid which strongly resembled pus, there were no germs whatever. The fluid was sterile. It is thought that cloudiness is usually caused by the presence of bacteria.

Dr. Fuller thinks aspiration of these joints would be useless if there is no fluid in them. If there is no fluid in the joint you can not aspirate. It is only in cases in which there is fluid that this treatment is at all appropriate. I have no doubt there are cases where cocci exist in the synovial tissues, deep in, and in the periarticular structures without any particular effusion in the joint, and that the iodin, possibly due to its penetrating powers, and possibly, on the other hand, due to its counter-irritative powers, by leading to an increased blood supply to the part, has a far better effect when it is painted, as it were, directly upon the absorptive inner structures of the joint, and might easily bring us better results than can be obtained by painting it on the skin. There are those who believe that painting iodin upon the skin exerts a certain curative action in certain diseases. If there be no effusion in the joint, I should hardly want to inject the joint. In the first place, it would cause an undesirable degree of distension, and it would be painful. I saw evidence of this last Monday, when I injected the great toe of a man who had a second occurrence of discharge. He was in the hospital last fall; he had a gonorrhea which subsided after a while. His gonorrheal knee got practically well under Bier's congestion treatment, so that there was only slight limitation of motion. He came in later with a new discharge from his urethra, and on examination the metatarsal and phalangeal joints were involved. I injected iodin into them, which caused pain and distension of the joints. The pain shortly disappeared, so that in a short time he got along extremely well. Dr. Fuller said that passive motion of any one of these inflamed joints is not advisable or possible. That is not true. In at least the last five cases I gave the patients ethyl chlorid (which I do not like to do because it is not perfectly safe), or preferably nitrous oxid, and moved the joints at intervals of two or three or four days, and I believe the reason why these joints did not become ankylosed was because I instituted motion. These cases of gonococcal arthritis were of the severe type.

Dr. Webster spoke of obtaining an excellent result in one case from the use of Torrey's serum. Torrey reports 40 cases in which his serum was used. The serum is obtained by inoculating large-sized rabbits with gonococci, and after a varying period of from five to six injections the serum is withdrawn and then used as an injection.

Dr. Ochsner says immobilization is the thing to use. Immobilization is not the thing to use, simply because the inflammation is periarticular. If it were confined to the joint itself, immobilization would not be out of place, and we have *prima facie* evidence of hundreds and thousands of cases of tuberculosis in younger people and in children with no tendency to ankylosis from immobilization. Dr.

Ochsner has said we can not have ankylosis without a lesion of the cartilage. We can not have true bony ankylosis or fibrous ankylosis without a lesion of the cartilage, but we can have a very serious functional ankylosis from shrinkage and contraction of these infiltrated tissues in knee joints. I have cut into two or three of them in which there was gonococcal infection. The tissues from the skin to the interior of the joint were fully an inch in thickness, all infiltrated with inflammatory products. Fibrin is one of those products. On the other hand, there is a deposit of more or less connective tissue, and this connective tissue is not flexible nor elastic, and if we allow such joints to remain perfectly still for three or four months they get stiff, and if there is functional ankylosis it is because the soft tissues have shrunk or have become hard around the joint so that motion can not be made. That I believe to be a fact in many cases I have seen. Passive motion will do no injury, and it is indicated in practically all of these cases. My experience comprises forty-six cases of gonococcal arthritis, and, while it is not sufficient ground on which to base any such paper as I have read, yet I have had such excellent results from injections that I am interested in having other physicians try this treatment and report their results.

DISCUSSION ON DR. OCHSNER'S CASE.

Dr. Thor. Rothstein:—I wish to call your attention to the symptoms which will assist you in understanding the case.

When I saw the man first he presented the picture of spastic paresis in all four extremities; but the paresis was more pronounced on the left side than on the right. There was paresis of the left arm, so that there was only a little movement in the joint of that arm. The left leg could be moved a little more than the right. In the right arm mobility was much impaired; mobility in the right leg was also impaired considerably. On the left side the arm and leg could be moved freely, but in the leg there existed a certain degree of stiffness. Stiffness was pronounced on the right side, so that it was hardly possible for him to execute any passive movements without intense pain, on account of contractions. The patellar-tendon reflexes on the right side were very much exaggerated, where the nodular tumors existed. There was ankle clonus; also the Babinski sign. On the left side the reflexes were decidedly increased; also the ankle clonus. There was no patellar clonus, and but slight Babinski. The Babinski sign was not always present. He had an extreme tremor, very much like an intention tremor, but differing from an intention tremor in that when he tried to move the head the tremor would occur, but would persist for a long time after he ceased making movements. I was not able to demonstrate clearly any disturbance of sensibility except in the left hand. He did not feel quite as well with this hand. We tested the sensibility of this hand by having him take hold of different objects. He presented some other symptoms, especially in connection with the eyes. There was pronounced nystagmus. As he looked from left to right pronounced nystagmus occurred. The right eye was clear, and there was no paralysis of that eye. The iris reacted normally. The tongue, when put out, would deviate to the left. The left half of the tongue does not seem to be quite as large as the right half. That symptom, however, is gradually disappearing. He has perfect control of his bladder and rectum. When he presented these symptoms we were suspicious of multiple sclerosis; but there were some symptoms in the case which led us to doubt multiple sclerosis—the rapid development of the paresis and its dissolution. Of course, tremor, nystagmus, and asymmetry of the tongue may exist even in a normal individual. When he turned his head to the right we became more suspicious of what his trouble was on account of the pain it caused him. When he turned the head to the right slowly there was no pain felt; but when he turned it more than half way there was considerable pain felt. This pain went through the whole right half of the body from the whole neck. It seemed clear that the tumor was situated in some place in the cervical region. By examining the muscles and following the spinal column, one could decide that the tumor was situated more to the right of the vertebral canal than the left. By percussion of the prescapular muscle and rhomboideus minor we found there was muscular contraction, which was more pronounced on the right than on the left side. There-

fore, it seemed to us clear that the tumor was situated so high up that it compressed the cord above the segments which give the nerve supply to these muscles, that is, the nerves from the fifth, fourth, and first segments, and some fibers from the sixth also. The tumor lay undoubtedly above the fifth segment, corresponding to the fourth or fifth nerves. When he turned his head to the right he felt pain, which passed upward into the back of the head. We asked the patient to outline where the pain was felt. It did not radiate to the ear, but in the region between the ear and the middle line of the neck. When he turned his head to the extreme right, it is probable that the movement which occurs in the second vertebra might have caused the tumor to press on the roots of the nerves through the occipitalis minor. After the operation he improved considerably. A few days later he presented a motor paralysis on the right side, but this condition has improved.

As to the prognosis, it is fairly good, but how much he will continue to improve it is hard to tell. The nystagmus and atrophy of the tongue may indicate the existence of another lesion in the central nervous system. We have no doubt that the symptoms both in the leg and arm will continue to improve.

Regular Meeting, Feb. 20, 1907.

A regular meeting was held Feb. 20, 1907, with Dr. C. P. Caldwell in the chair. In the symposium on influenza, papers were read as follows: 1. Etiology, Diagnosis, Symptoms and Treatment with Special Reference to the Cardiac, Pulmonary and Gastrointestinal Complications, by Dr. J. L. Miller. 2. Complications of the Nervous System, with Treatment, by Dr. William G. Stearns. 3. Diagnosis and Treatment of Acute Mastoiditis Due to Influenza and Infectious Diseases, by Dr. William L. Ballenger. 4. Diagnosis and Treatment of Certain Ocular, Cerebral and Other Complications Resulting from Infection of the Nasal Accessory Sinuses, by Dr. H. Manning Fish. The symposium was discussed by Drs. Theodore Tieken, Adolph Gehrmann and Elmerin S. Baer.

DISCUSSION OF SYMPOSIUM ON INFLUENZA.

Dr. Theodore Tieken:—There is not much to be added to what the essayists have said this evening, and I will try to stick closely to the medical side of the subject, because I do not pretend to know anything about the other phases.

As to the etiology of influenza, there is no question whatever but that the bacillus of Pfeiffer is the exciting cause. As Dr. Miller has stated, in about 60 per cent. of the patients with cough we find the bacillus of influenza, which may lead us to think it is a harmless organism, but that is not the case. In an article which was published last year in one of the German medical journals, about 400 cases of scarlet fever, whooping cough, measles and diphtheria in which the sputa was examined the author found the influenza bacillus in from 60 to 70 per cent. of the cases; and at autopsies, in cases of measles with broncho-pneumonia, the bacillus of influenza was considered the exciting cause of the pneumonia, so that it is not the harmless organism we have been led to believe. The same applies to scarlet fever cases. It is thought that many of the pneumonias in scarlet fever are largely due to the influenza bacillus or at least are influenced by its presence. In almost every case of whooping cough Jochmann reports having found either a "pseudo"-Pfeiffer bacillus or the bacillus of influenza proper. In cases of lobular pneumonia or of severe bronchitis the bacillus of Pfeiffer was present in enormous numbers. We must not say it is harmless any more than we can say the diplococcus pneumoniæ is harmless, because it is always present, for all it wants is a chance "to get busy," and it will certainly do so.

As to the circulatory disturbances, Dr. Miller laid stress on the slowness of the pulse. Not infrequently we have tachycardia, with a very high pulse rate of 150 to 160, of low tension, as well as bradycardia, where the pulse is as low as 40, 36, and I have seen it as low as 32. We all know that we have endocardial, as well as myocardial involvement.

As to pneumonia which occurs in influenza, Dr. Miller said we do not often have a crisis; that we have many cases of unresolved pneumonia, and that there is a tendency to abscess formation. There is also a tendency to the opposite

conditions; that is, fibrosis or fibroid phthisis, which the older writers frequently mention.

Another thing we must consider is the exciting action which the bacillus of influenza has on tubercular foci. Patients with tuberculosis do not bear influenzal infections very well. The fatalities among tubercular patients are greatly increased by the presence of the bacillus of influenza.

Jochmann differs from several American writers in stating that he has never been able to find the bacillus of influenza in the circulating blood. He has made over 400 examinations with negative results. He took particular pains in making these examinations, and mentions the fact that he used nothing but culture media containing hemoglobin, which is necessary for the growth of the bacillus of influenza.

The physical signs are especially interesting, and I remember Dr. Billings called our attention to the paleness of the palate years ago when we had an epidemic of influenza. We found in most of the cases examined that the pharyngeal margins were deeply injected and the upper portion of the uvula was very anemic, and this is something we should always look for.

I will not say anything in regard to the treatment, because it is entirely symptomatic.

Dr. Stearns made the statement that pharyngeal paralysis was about as frequent in influenza as in cases of diphtheria. I am free to admit I have never seen such a complication in my short experience. I have seen many cases in which there was pharyngeal paralysis complicating diphtheria, but have never seen one in influenza.

Another thing which I have noticed in this epidemic is the number of cases of irritable bladder. I have looked through the literature and have not been able to find any mention of this particular condition. In about one out of every four cases I have seen this year, where the infection was severe, there was an irritable bladder. Microscopic examination shows a catarrhal cystitis. I have not looked for the influenza bacillus in the urine of these patients. I would ask the gentlemen who are to follow me in the discussion to speak of that phase of the subject. I had a young girl this evening who urinated every ten or fifteen minutes; she has symptoms of influenza, and numerous bacilli were found in her sputum.

As to Dr. Ballenger's statement with reference to the use of peroxid of hydrogen, I think he has exaggerated its use somewhat. In the case of a member of my own family I had an argument with an aurist who suggested using it, while I insisted that he should not do so. The patient had otitis media. There are two sides to the question of using peroxid, and each has its champions.

Dr. Adolph Gehrmann:—The most interesting point that has been brought out in the papers that have been read this evening is the wide distribution of the influenza bacillus in the body. While its distribution can almost be extended to include every part of the body, still in our bacteriological examinations of the material we have found some difficulty in proving the presence of the influenza bacillus. It is relatively easy to find it on mucous surfaces and in pus that has recently formed. Apparently the bacillus dies as soon as the pus remains for any length of time, and we have probably the effect of the influenza bacillus through its toxin resulting from disintegration. This is one of endotoxins about which so much has recently been written. It is through disintegration that it is liberated, and then we see its marked toxic effect.

As far as the distribution of this bacillus is concerned, I have found it on every mucous membrane in the body, including the bladder; in a number of cases also in vaginitis, and again in urethritis several times. It is possible, when one makes a sufficient number of cultures on proper culture media at different times, to be quite certain it is present, but one must be very careful in making direct microscopic examinations before accepting organisms that stain in the peculiar way that the influenza bacillus does as the typical influenza organism. Its presence in large numbers would make it quite clear that we have to deal with influenza; at other times the number is small, so that it is difficult to decide by direct examination; but if cultures are made at the same time the diagnosis can be established.

Dr. Almerin W. Baer:—The subject of treatment, as set forth in the first and second papers, is so opposite to each other in the view taken, from a scientific standpoint, that I can not help but refer to it.

The first essayist recommended the coal tar preparations exclusively. I do not know of anything that is doing more damage to-day than the use of the coal tar preparations. I know of nothing that is more debilitating to sick patients than the addition of coal tars to their already diseased condition. I feel that the coal tar preparations have and are doing much damage, because during the epidemic of grip in 1889 and 1890 the doctors used them so freely and indiscriminately many manufacturers were induced to get out headache powders of various kinds containing coal tar preparations, and the laity to-day call at our drug stores and ask for them because they have learned how to use them—misuse them is a better expression—from the physician, and I think it is time for us as physicians to recommend the discontinuance of them, even among ourselves, because of their injurious effects.

DEMONSTRATION OF TWO CASES.

Suppurative Thrombophlebitis (Vena Iliac).

2. Atresia Recti Vesicalis.

Carl Beck, M.D.
CHICAGO.

The two cases which I am demonstrating to-night are both of rather rare occurrence. The first one is a case of thrombophlebitis suppurativa. Inflammatory processes of veins are very common. There is hardly any inflammation of any extent without thrombophlebitis, but collateral circulation is quickly established. Only when large trunks of vessels are affected and the circulation of a large district is impeded does the affection gain importance. The minute changes of these conditions are well known. More difficult is occasionally the diagnosis from the meager symptomatology. If we have to deal with a superficially located outer thrombosis of a large vessel the diagnosis may be easy, as the vein can be felt as a solid, painful cord, and the edema will clearly show an impediment in circulation, but difficult, and even impossible, may be the diagnosis of a deep-seated thrombosis in the abdomen, chest or cranium.

I have had, by chance, in short succession, two typical cases of very extensive, deep-seated thrombophlebitis suppurativa in which I could make a diagnosis and verify it by operation. One of these cases I am demonstrating to-night; the other one is still at the hospital, reconvalescing. In both of these cases the discase was diagnosed beforehand by the symptoms already mentioned, namely: pyemia and localized pain, but a close observation showed also another symptom, which may come to be regarded as pathognomic if it should be observed again and again. I was glad to hear Dr. A. J. Oshsner tell of having observed the same symptom in a number of cases when he discussed this case before another society, and, coming from a man of so close and good observation, I think I am correct when I say that the symptom is general in most of these cases. It consists in an intermittent edema of the parts effected which lasts for a few hours, then disappears, appears again, disappears and finally becomes a stationary and permanent edema. This premonitory sign was observed in both cases of mine for several days, and my explanation of it was that a well-standing thrombosis embarrassed the circulation temporarily, that collateral circulation or increased absorption was able to dispose of it, but finally the thrombus filled up the vessel and the edema became permanent. The prognosis of this disease is very grave. To every one who saw either one of these two cases of mine it seemed that recovery was out of the question, and I am inclined to believe that only the surgical treatment which was afforded the patients saved them. The history of the case is as follows:

Mr. F. S. had a slight infection of his finger, eight months ago, which led to an acute inflammation of his axillary glands, with an abscess. Somebody incised this gland, and some time afterward the gentleman developed a grave general

infection, pyemia without any localization in special. The case remained obscure for months. It was regarded as typhoid fever because he ran high temperatures, had profuse diarrhea, chills and general grave symptoms. Finally a swelling of his right arm appeared which seemed to indicate suppuration, but the incison on three places of the arm revealed only an exudate of gelatinous condition. When I first saw the patient (April 6, 1906) I saw the typical picture of a pyemia, daily chills, sometimes two a day, with high fever, sweats and a high degree of anemia. The only sign pointing to a focus was a pain in the left hypochondriac region and some tenderness in that neighborhood. An occasional edema of the left limb, which would quickly disappear and reappear in a few hours, also an edema of the abdomen on that side and of his buttocks, indicated deep suppuration, and I decided to incise for an abscess. I was surprised to find no abscess, but a solid and enlarged white femoral vein. I tried to find the upper extent of the thrombus, as far as I dared to go, but the iliac vein was thrombosed also. The only treatment that seemed to me feasible was to make a few incisions into the vessel to lead the stream of drainage outward. At first no blood nor pus, but only serum came from the wound, but after three days a profuse pus discharge appeared. For twelve weeks an after-treatment of the most trying character showed that the whole retroperitoneal space up to the diaphragm was filled with pus. A daily irrigation with great difficulty finally led to healing, leaving only a slight swelling on the left limb. The gentleman has gained in health greatly. His weight increased 48 pounds and, as you see, he is perfectly well.

Soon afterward another case of the same character with thrombosis of the subclavian vein, with the same intermittent edema, treated in the same manner, was under my observation. In this case also a radical operation was followed by recovery.

In summing up, I have learned three points from these cases: 1. That no radical operation should be done in such infections, but opening and drainage of the abscess should be effected with the utmost delicacy. 2. That an intermittent edema may be a pathognomonic symptom of a deep-seated thrombophlebitis. 3. That a careful drainage of large thrombosed veins will yield good results, even in very bad cases.

The second case I wish to show you is one of a rare variety of congenital malformation of the rectum and bladder.

Dr. Zoehrer, of Vienna, and Dr. Collins, of Dublin, Ireland, found only three abnormalities in almost seventy thousand cases, but the usual proportion is about one to five thousand. A malformation of such a high degree as I am showing to-night is, however, of extremely rare occurrence, and a perfect cure of the condition is still more rare. The history of the case is as follows:

I saw the child first when it was 16 hours old. The obstetrician in the case had diagnosed imperforated anus. An attempt was made to find the rectum by a small incision, but an incision of an inch and a quarter depth in the anatomic direction proved an absence of the rectum. Four hours later a still deeper incision was made, at the hospital, without result. While the child strained, some urine tinged with meconium came. It was clear that the intestinal canal communicated high up with the bladder. The only means to save the child was a left colostomy, which was performed, and, though the child was very sick for some time, it recovered. When about 6 months old, it was demonstrated before the Chicago Medical Society on April 10, 1901. A short time afterward an attempt was made, by passing a sound downward, to find the lower end of the rectum. It was found that it was about an inch above the coccyx. A resection of the coccyx was made and an opening established, but it was impossible to fasten the intestine at any place, except to the coccyx, with one stitch. The opening contracted and had to be kept open with sounds for months. This treatment was very trying and painful and for a long time the child suffered a great deal, owing to the accumulation of feces and occasional straining of the bladder, but this constant pressure downward had its advantage as well. With the aid of my little finger I very frequently pulled the rectum downward and finally I was able to do a plastic operation by the formation of two flaps from the but-

tocks. At the same time I tried to give the child an action of the sphincter (which was missing) by using the flaps from the muscles of the seat. This healed and gave to the child, as you see, a very good function. The canal between the rectum and bladder was exposed and ligated, but it did not heal fully, so that there still exists a slight fistula, but, on the whole, the result is a perfect one. Three months ago I closed the opening of the bowel in the abdominal wall, and the child, which is now 6 years old, is apparently in normal condition.

HYDATIFORM MOLE.*

R. Ralph Ferguson, M.D.

CHICAGO.

I wish to report a very interesting case of hydatiform or vesicular mole and to speak of a common case of abortion which occurred some time previous to the present case. I also desire to bring out the parallelism between the two conditions up to a certain stage and to show the differences between the two conditions beyond that stage.

Up to Jan. 1, 1906, there had been reported only about 220 cases of hydatiform mole. Not a great deal can be found in the literature on the subject. Absolutely nothing positive is known as to the causes. It usually occurs between the ages of 30 and 40 or during the latter half of the child-bearing period, and is twice as frequent in multiparæ as in primiparæ. Findley thinks that it is probably of maternal origin and is the result of a vesicular degeneration of the chorionic villi resulting from a disturbed maternal circulation. Other causes mentioned are syphilis, diseases of the decidua, death of the fetus with subsequent overgrowth of the chorion, and cystic degeneration of the ovaries.

Malignant degeneration of hydatiform mole occurs in about 16 per cent. of all cases, while 40 per cent. of deciduoma malignum arise from vesicular moles. No sharp line can be drawn between benign and malignant moles and macroscopic and microscopic examination may not determine the character. The length of time a mole remains in the uterus does not influence its disposition to malignancy.

There is really only one way to diagnose the condition, viz.: by seeing the vesicles, and they are very seldom expelled spontaneously before the actual abortion is in progress. Therefore, the diagnosis is rarely established until expulsion occurs.

The most common clinical evidence is the rapid development of the uterus at a given period accompanied by hemorrhage; also the consistency of the uterus. Pregnancy may be in the fourth or fifth month and yet the uterus may be as large as at full term, but it is more smooth and rounded than usual and no fetal parts can be felt. Conservative methods of treatment have no place here; as soon as the diagnosis is established the uterus should be emptied at once and the patient watched not for a month, but for several years for any tendency to malignancy.

The first case was as follows: The patient was brought to me July 1, 1906, with a history of having the last menstruation early in November, 1905. No other changes occurred until the last of December, when the abdomen seemed slightly enlarged and a slight morning sickness appeared which continued up to about Jan. 10, 1906. On January 2 she began flowing, the morning sickness disappeared and no further increase in the size of the abdomen was noticed. She continued flowing, with only a day or two intermission, until July. On July 1 she stated that occasionally she discharged pieces of firm tissue along with heavy clots and also had saved a piece about the size of a hickory nut. This proved to be a piece of placental tissue partly organized. At times she had felt feverish, was considerably constipated and was becoming weaker all the time. I made an internal examination July 1 and found the uterus enlarged to about two and one-

* Read before the Northwest Suburban Branch of the Chicago Medical Society, Dec. 10, 1906.

half times its normal size, soft and boggy, and a patulous os into which I could only get the tip of the index finger.

She states that at no time did she have a sudden hemorrhage nor did she have any pains. On July 5 I did a curettement, and the patient went on to a normal recovery.

Now, as to the case of hydatiform mole. Mrs. B. First saw patient Sept. 7, 1906. Aged 40, slight and short. Norwegian. Weight, 98 pounds. Sallow, almost cachectic complexion and very weak, barely able to be about. Family history negative.

Menstrual History.—Began menstruating at age of 16, always regular, no dysmenorrhea. Married rather late, at age of 31 years. Two years after marriage the first child was born; everything apparently normal. Then followed three more children at intervals of about eighteen months. All were normal in every respect; never had a miscarriage at any time. She nursed each child much longer than usual, even while she was pregnant with the following one. The last birth was April 30, 1904. After this birth she has never felt well, spoke of feeling tired all the time, but nursed her baby even beyond the second year, which was April 30 last. Somewhat constipated. Last menstruation was May 19, 1906, normal in amount and color. During the next nine weeks nothing in particular was noticed, except the same tired feeling and a slight increase in the size of the abdomen. No morning sickness at any time. On July 22 she began to flow a dark-colored, watery fluid, which continued uninterrupted, except for a day or two, until she became too weak to attend to her household duties.

The history so far suggested nothing more than a common case of abortion similar to previous case reported, except that there had been no morning sickness. This was September 7th, when pregnancy was about four months along; but the uterus was large enough to indicate a seven or eight months old pregnancy. Mrs. B. states that about July 30th the size of the abdomen seemed to increase very rapidly; so much so that she spoke of almost feeling her abdomen grow. This lasted between three and four weeks, and was after flowing began, which was about July 22. I made an internal examination this first time and found the cervix soft and boggy and the os patulous, the uterus being over ten fingers above the pubes. She had never felt any life, so my first thought was to empty the uterus at once; but their circumstances would not permit her being sent to the hospital and I feared infection if done in the home, so I thought to watch the case a few days. I gave her one-half grain of codeine on the night of the seventh; on the night of the ninth she reported less flow, so I repeated the same dose on night of ninth and also on night of the eleventh. On the night of the eleventh at midnight I was called in to see the case. She had a very sudden and severe hemorrhage of thin red blood to the amount of over a quart. I made an internal examination and found the vagina full of clots and a few vesicles which I discovered later. The os was dilated, but not sufficient to admit even the tip of the finger. Fearing another hemorrhage, I packed very tightly, intending to send the patient to the hospital in the morning. But at three a. m. I was called back and found that the tampon had been expelled and along with it the following described mass:

It was just large enough to fill a quart Mason jar and consisted of hundreds of small grape-like bodies filled with a watery secretion. These cystic bodies were of different sizes, from a split pea to a hazelnut. On puncturing these cysts the fluid was turbid and rather heavy. The mass in the jar looked very much like hundreds of small white grapes in a reddish current jelly.

There was still considerable hemorrhage, so I packed again very tightly. Of course, an immediate curettement was indicated, but I thought the risk too great in such a place. In the course of half an hour, however, the packing was saturated, so I removed it, and with the aid of the husband and an oil lamp I did what I thought was a fairly good curettement, using only a dull curette, removing a considerable number of cysts. Hemorrhage stopped and the patient went on to what I thought was a normal recovery, her temperature never being above

99°. One thing was noted, however; the abdomen seemed full even though the uterus contracted down to a little over twice its normal size.

But this was not the end of the case; exactly four weeks from the discharge of the above mass of cysts she had another sudden hemorrhage, but of a very watery character; a few more cysts were noticed. Being close at hand, I did not pack this time, but watched the case very closely. The discharge following this was almost entirely watery, but of a peculiar odor and slightly tinged with blood. I again tried to get the patient to the hospital, but could not.

The next day the patient was up and apparently in good condition, only weak. Two days later she had another discharge of watery fluid and a few vesicles, and two days later another. I explained the seriousness of the case to the husband for about the hundredth time, so on October 15th I did a curettement at the hospital and was not satisfied until I touched the whole interior of the uterus with my finger.

This has been just two months ago and she has gone on to a normal recovery. Microscopic examination of the specimen parts removed at last curettement showed no tendency to malignancy, but this does not rule it out. Unfortunately, I tried to preserve the specimen in alcohol instead of formaldehyd and thereby lost it.

SYPHILIS OF THE LARYNX, WITH PRESENTATION OF CASE.*

J. M. Bick, M.D., and G. W. Wagner, M.D.

CHICAGO.

History.—Mrs. B., colored, aged 26. Married twelve years. Father living and is in good health. Mother living, but has asthma. Patient has seven brothers and sisters living, all in good health. Two died in infancy, cause unknown. One uncle died of pulmonary tuberculosis. Husband living, is in good health, and denies venereal infection. Patient had a miscarriage seven years ago, which occurred in the fifth month of gestation, and she says, followed a fall on the abdomen. She has never had any other pregnancy. About two years ago she noticed a swelling in the hypogastric region, which has steadily grown larger. She has not had any skin eruption or persistent headache. She has not lost flesh nor had any night sweats. Complains of a slight cough, but expectorates little. Her appetite is good. Last June she began to suffer with hoarseness and occasionally had some difficulty in breathing. Previous to this time she has never had a sore throat. The above symptoms persisted with periods of amelioration and exacerbation up to October 15, when she presented herself for treatment. She was then suffering with a rather severe dyspnea and complete loss of voice. She had no rise in temperature nor marked constitutional symptoms. On inspection of the larynx it was observed that one-half of the epiglottis had been destroyed by ulceration, which, however, had healed, leaving a dense fibrous cicatrix. The mucous covering of the entire larynx was intensely hyperemic and infiltrated. The vocal cords, as the result of thickening of the ventricular bands, could not be brought into view. In the absence of fever and other constitutional symptoms, together with the local findings, a diagnosis of syphilis of the larynx was made and concurred in by Professor Robertson. An examination of the lungs by Dr. John Fisher revealed nothing abnormal. Abdominal and pelvic examination made by Dr. Emanuel Friend revealed a uterine fibroid. Sputum examination showed no tubercle bacilli. The occipital glands on both sides were enlarged. The patient was put on antisyphilitic treatment. After several days her dyspnea improved and the voice was somewhat clearer. There was less hyperemia, but there remained considerable thickening of the right ventricular band, so that the right vocal cord could not be seen. The left cord was very much congested, but otherwise normal. The treatment was continued, and at the present time the dyspnea has disappeared entirely, but the voice is still husky. The mucous membrane of the larynx is practically normal in color, but more or less thickened over the arytenoid cartilages and ventricular bands. Both vocal cords are now plainly visible, but are thickened, slightly

* Read before the North Side Branch of the Chicago Medical Society, Dec. 20, 1906.

reddened and fail to approximate normally, the right cord lagging more than the left.

In considering the mode of infection we find that primary syphilis of the larynx is almost unknown. Bosworth[1] states that so far but a single case has been recorded. Congenital and secondary syphilis are rare, while the tertiary lesions are the ones usually met with. von Bergmann[2] quotes Gerhardt, who assumes that the larynx is affected in more than 10 per cent. of all syphilitics. Robertson[3] mentions the following: Lewin, 2.4 per cent.; Schrotter, 3.4 per cent.; MacKenzie, 2.8 per cent.

Pathologically, secondary syphilis of the larynx makes its appearance in from six months to two years after infection. This is characterized by a hyperemia which comes on rather insidiously, and usually without marked subjective symptoms. If the vocal cords are involved there is impairment of the voice. Mucous patches and superficial ulcers, while rare, do occur. The latter have sharply defined margins. The tertiary lesions as a rule do not appear until three or four years after the primary infection, and may be delayed up to fifteen or twenty years. In this stage we have the formation of "gumma, deep ulcerations and cicatrices, causing dyspnea and alteration of voice. The gummata may be in the form of multiple tumefactions or a diffuse infiltration." "Small gummatous nodes may be reabsorbed, while large ones usually soften and break through into the larynx, giving rise to deep, flask-shaped ulcers with infiltrated edges, and covered with a dirty yellowish exudate. The ulceration and infiltration sometimes extend down to the laryngeal wall, causing perichondritis and necrosis of the cartilage."[4] Following the ulceration dense fibrous bands of scar tissue are formed, which later contract, causing distortion of the larynx.

Of the symptoms of syphilis of the larynx, hoarseness is present early in the disease, which later may develop into complete aphonia. If the ulceration is limited to the epiglottis the voice may be but little affected. Dyspnea in secondary syphilis is not very marked, but in the tertiary stage often becomes troublesome and may even threaten life from thickening of tissue, new growths, or cicatricial contraction of parts. Dysphagia is also not very prominent until later in the disease. Epiglottic thickening and ulceration seem to interfere but little with the act of swallowing. Pain, except on deglutition and on using the voice, is frequently absent. Cough, if present early, is caused by an effort to remove secretions. Later, as the larynx becomes constricted, it may acquire a characteristic spasm. Severe cases may be accompanied by fever and debilitated patients often have colliquative sweats. Specific eruptions seem rather infrequent, and constitutional symptoms are slight, unless dyspnea and dysphagia are well marked. The appetite generally remains good. On making a laryngoscopic examination, the hyperemia, mucous patches or superficial ulcers of the secondary stage, previously described, will be observed. In the tertiary stage we have the presence of gumma, the characteristic deep circular or flask-shaped ulcers, or bands of cicatricial tissue. Enlargement of the cervical glands are also met with.

Concerning the differential diagnosis, the hyperemia of tuberculosis of the larynx is of a much paler red than that of syphilis. Tubercular ulcers usually are more numerous and more superficial, with an irregular border and attended with pain. The ulceration is more likely to begin in the lower larynx, while in syphilis the upper portion is often evolved first, the order of frequency being the epiglottis, the vocal cords, the ventricular bands, and lastly, the arytenoid commissure. Fever and grave constitutional symptoms as a rule are absent in syphilis. Tubercular laryngitis is frequently attended with pulmonary involvement. In the early stages the iodids may have to clear up the diagnosis. Incipient carcinoma in the early stages also may be difficult to distinguish from syphilis, and here again, we may have to depend upon the iodids. We should remember, however, that patients with cancer of the larynx will often improve for a

1. Bosworth: Diseases of the Nose and Throat.
2. von Bergman: Surgery, vol. II, p. 207.
3. Robertson: Journal A. M. A., Jan. 1903.
4. Ziegler: Pathology.

short time under antisyphilitic treatment, but sooner or later will show a gradual loss in weight. The hyperemia of cancer is usually limited to one side of the larynx. Later, in cancer we have a distinct tumor, which precedes ulceration. The cachexia of cancer is absent in syphilis. Sarcoma of the larynx is also characterized by a distinct tumor, the surface of which may be eroded, but no ulceration with pus formation. In lupus of the larynx we get a highly injected membrane with irregular contour, but no ulceration. Lupus also appears somewhat earlier in life, unless the case is one of congenital syphilis. In chronic laryngitis the membrane is uniformly hyperemic, and perhaps somewhat thickened, but never ulcerated.

The treatment of syphilis of the larynx is constitutional and local. Secondary lesions as a rule yield readily to the administration of mercury salts. When gummata and deep ulcers are present the iodids are indicated, which often must be given in large doses. If the appetite is poor tonics are of benefit. The use of tobacco and alcohol should be interdicted. Locally stimulating solutions of zinc chlorid, silver nitrate, tincture of iodin or a saturated solution of iodin crystals in creosote may be used. For deep ulcers of the epiglottis Lenox Brown reccommends cauterization with solid silver nitrate or the galvano-cautery. When stenosis of the larynx results dilatation with Schrotter's bougies or O'Dwyer's tubes is practiced.

If dyspnea becomes very great so as to threaten life, intubation or tracheotomy is imperative, and this should be advised rather early. Following tracheotomy we may forcibly dilate the larynx, preferably from above, with MacKenzie's or Navratilo dilator. Schrotter's three-plated dilator, which is much stronger than either of the above, is often of service when the stricture is composed of dense fibrous tissue. Adhesions between the cords or ventricular bands are best divided by means of Schrotter's or MacKenzie's concealed knife. Following dilatation intermittent intubation is advisable for a longer period, and may be necessary for the rest of the patient's life. More or less permanent impairment of the voice is to be looked for.

THE GENERAL PRACTITIONER.*

G. W. Green, M.D.

CHICAGO.

The fellow who does the work and gets but little credit for it; the one who looks after all physicial and mental ailments from the crown of the head to the sole of the foot; the doctor who goes at every beck and call, night or day, rain or shine, holidays not excepted. At one time not many years ago, this "family doctor" was held in highest esteem by the common people. He was considered the acme of the medical profession, the highest type of medical men, ofttimes held in higher esteem than the preacher. He was consulted about everything medical, many things matrimonial, and ofttimes, things theological. Why? Because the people found his advice the best they could get in these lines.

A change has taken place. This is the age of specialism. It has crept into commerce, manufactures, banking, and all of the professions, yes, and even into politics. In olden times one doctor looked after our hair, eyes, nose, throat, ears, chest and all the way down. Now we have our specialists for the eyes, ears, nose and throat, a chest and stomach specialist, and a heart specialist, and a man who makes a specialty of our kidneys, and still another to look after our nervous system, and a medical expert to tell us when our mind is wandering. If we need any carving we have the different surgeons with their specialties of the pelvic organs, of the chest, and orthopedics. Why this specialism in medicine, and is it a good thing for the people? It has come simply because medicine and surgery have advanced along special lines, and the great mass of the general profession have not or could not keep abreast with the advances, until to-day the great man in the eyes of the people is a specialist. He is the man who charges them $25 for what they used to pay $5. Is this a good thing for the people? Is it a good

*Read before the North Shore Branch of the Chicago Medical Society, March, 1907.

thing for the general practitioner himself? They have allowed themselves to get behind the times. They have not kept up with the advancement of their profession, and when Sam Smith has appendicitis he is rushed off to the surgeon; or when Julia develops endocarditis she is sent to the professor of heart trouble. These professors of course charge big fees. Very properly the people come to think their family physician does not know very much, and should receive the small fee he charges after the specialist has received his fat fee. A personal friend of mine, of considerable repute, told me that at one time he was caring for a member of a wealthy family who had typhoid fever. The patient developed a typhoid ulcer which perforated, and was diagnosed immediately by the general practitioner, who called in a surgeon to repair the rent. The patient recovered. The surgeon sent in a bill for $2,000, which was paid without a murmur. The general practitioner sent in a bill for $500, at which the family demurred, not because the services were not highly satisfactory, but simply because it was a little in excess of the ordinary rate per visit for which they had been paying. No wonder so much has been said about the division of fees. I say this is the fault of the general practitioner. They have educated the people along these lines. They must educate themselves so they can give the best that can be given, and then, and not until then, can they demand of the people their just division of fees. How can this be done? Simply by attaining a good foundation for medical work in the schools and hospitals, and then building on it. Many a good man fails to build after he has a good foundation.

One of the easiest ways of keeping up with the advances of medicine and surgery, and building on the broad foundation already laid, is to attend medical societies, local, state and national. Many say they can not afford to attend. I say you can not afford not to attend. You are brought in contact with live, progressive men and learn many a new point in diagnosis, therapeutics, or some little technic in surgery which clears up a doubtful case, cures a sick patient, or which makes a comparatively dangerous operation almost free from danger.

Another successful way is attending the clinics of the best man, and seeing how and why it is done. And another great help to greatness is the systematic study of every case. There is nothing so conducive to this systematic study of each case as a clinical history. It takes a few extra minutes to start this, but it saves you much time in your subsequent work with your patient. If there is the least doubt in a diagnosis, do not be afraid to call counsel (it bespeaks greatness), and follow the history of that patient through the hands of a dozen different doctors, if need be, to the operating table, or the postmortem room, and know what the trouble is. It gives you a confidence which tends to success.

In your hurry and bustle do not forget your microscope. Use it for your blood analysis, your pathological and bacteriological work. It will answer many a question for you and help you to know instead of guessing. Did I forget to mention the ophthalmoscope? Well, use it every day. It will save you a great deal of mortification.

Your duties are not all done when you have done all in your power to cure the sick. You should be posted in all matters of general public interest, and especially public sanitation. The cause and prevention of disease should be given thorough and careful study. Our public schools should be visited by the physicians in their vicinity, and health improvements, if any, suggested to the proper authorities by the organized medical society.

A doctor should be broad-minded enough to be generally posted in the ways of "high-handed finance" as practiced in Wall street and by the "get rich quick" people. He should put his hard earned money in safe investments so that at his death his family will not want. He should know enough of politics to be sure he is working with and voting for good and high-minded men. Treat every one as you would like to be treated. Keep your promises with the people. In other words, "give them a square deal."

When you have done all these things you will have made yourself the most valuable medical man to your families, and you will be able to diagnose and cure

their troubles better than any one else. Then, and not until then, will you be to your families what a general practitioner should be; then, and not until then, can we demand of them, and they will be glad to pay us, our just division of fees.

499 Wilson Avenue.

CRAWFORD COUNTY.

The Crawford County Medical Society met in regular session at the Carnegie Library, in Robinson, Thursday, March 14, 1907, at 2 p. m. In the absence of the president, Dr. Lyman Lowe was chosen president pro tem. The following members and visitors were present: Drs. T. N. Rafferty, I. L. Firebaugh, C. Barlow, Frank Dunham, Lyman Lowe, C. R. Burner and H. N. Rafferty of Robinson; Dr. C. E. Price of Eaton, Dr. J. E. Midgett of Flat Rock, and Dr. J. A. Ikemire of Palestine.

Dr. J. A. Ikemire read a very interesting paper on the Microscope and the General Practitioner. The author's conclusions were that the microscope was to be considered as a most valuable aid to the general practitioner in his every-day work, and was too often neglected; but that if one were compelled to choose between the laboratory and the clinical diagnosis, when there was apparently a contradiction—the latter, i. e., the clinical or bedside findings, should be given the most weight in reaching final conclusions. Dr. Ikemire also reported the case of a young woman who at his first visit semed to have a simple follicular tonsillitis, but which quickly developed into a fulminating general peritonitis, with death in forty-two hours from time of onset of the throat symptoms. An autopsy was not held, but the doctor's study of the case had led him to wonder if the peritoneal infection had gained entrance to the circulation through the diseased tonsils. In the discussion which followed the report of this very interesting case it seemed to be the general opinion that this mode of infection was plausible, since we know that typhoid fever is sometimes contracted in this manner, and also considering the close relationship often existing between tonsillitis and rheumatism.

In the matter of unfinished business, the constitution of our society was amended so as to combine the two offices of secretary and treasurer into one under the title of secretary-treasurer, in order to facilitate the transaction of the business of the society. Dr. H. N. Rafferty was elected as delegate and Dr. J. W. Kirk as alternate, to the meeting of the State Society at Rockford in May. A voluntary contribution was raisd to apply on the testimonials to be given Drs. Hollister and Ensign at the coming State Society meeting. On motion Dr. I. L. Firebaugh was requested to give a demonstration and quiz on Fractures and Dislocations at the May meeting of the society.

After the transaction of other business the society adjourned to meet the second Thursday in May, at the Carnegie Library in Robinson.

H. N. RAFFERTY, *Secretary-Treasurer.*

JACKSON COUNTY.

The regular monthly meeting of the Jackson County Medical Society for February was held in the new Hundley Hotel, Carbondale, Feb. 21, 1907, at 1:45 p. m. The following members were present: Drs. Keesee, Monroe Etherton and Davis, of Carbondale, Dr. Grizzell of De Soto, Dr. Hortsman of Vergennes, Drs. Molz and Roth of Murphysboro. The following papers were read and discussed: Acute Bronchitis, by Dr. Grizzell of De Soto; Fifty Years' Experience with the Different Treatments of Pneumonia, by Dr. W. T. Ingram of Murphysboro, Ill. Meeting adjourned to meet at Murphysboro the third Thursday of aMrch.

M. H. ROTH, M.D., *Secretary.*

M'LEAN COUNTY.

The December meeting of the McLean County Medical Society was held in the Council Chamber of the City Hall at 7:30 p. m., Dec. 6, 1906. The communications from Dr. McCormack relative to life insurance fees and Dr. Black concerning the ILLINOIS MEDICAL JOURNAL were brought up. A motion prevailed that the presi-

dent and secretary make such reply to Dr. McCormack's letter as may in their judgment seem best.

A motion was made that a committee of three be appointed to answer the communication from Dr. Black. Motion seconded and carried. The chair appointed as such committee Drs. Rhodes, Chapin and Taylor.

Mr. A. E. De Mange delivered the address of the evening on the subject of "Medical Expert Testimony." He spoke of the evolution of testimony and its increasing weight with the jury. Formerly the jury decided the point at issue from its own knowledge and experience. Owing to the apparent plausibility of the story of both plaintiff and defendant now, the tendency of the average jury seems to be to discredit the testimony of both. The speaker said that the testimony of the expert to have most weight, should be fair, non-partisan, unbiased, and non-argumentative. He favored the idea of the expert being selected and paid by the court. After some discussion a vote of thanks was tendered Mr. De Mange. Those present at the meeting were: Drs. Elder, J. B. Taylor, J. L. and R. G. Yolton, Covington, Chapin, Fulwiler, Hull, Godfrey, Hart, Rogers, A. L. and R. D. Fox, Welch, Sloan, Fenelon, Vandervort, F. Turner, Meyer, J. W. Smith, Howell, Noble, Bath and Rhodes.

Meeting of Tuesday, Dec. 18, 1906.

There was a called meeting of the McLean County Medical Society at the City Hall Tuesday evening, Dec. 18, 1906. The object of the meeting, as stated by President Bath, was to consider any business which had been neglected on account of our regular evenings being occupied by outside speakers.

The question of having our fiscal year coincide with the fiscal year of the state society was brought up and after a free discussion Dr. Chapin moved that a committee consisting of the secretary, councilor of our district, and president of the society, prepare and submit to the society at a regular meeting such changes in regard to the agreement of fiscal years as may seem best to them.

The letter of Dr. McCormack concerning old line life insurance examinations, and for which a committee was appointed at the December meeting to write the *Journal of the A. M. A.*, was discussed and it seemed to be the feeling of those present that the matter should be dropped for the time being. Dr. Bath recommended the investigation of certain advertisers in the city as well as advertisements of various patent preparations in the local papers. Dr. Hull made a motion that the judiciary committee be requested to investigate the several complaints or any other apparent irregularity. Motion prevailed.

Owing to the possibility of a child who has had had an infectious disease, such as diphtheria, communicating the disease to others, for a period varying from a few days to several months, Dr. Rhodes suggested the advisability of the McLean County Medical Society agreeing upon the minimum time at which it should be safe for such a child to return to school after quarantine is removed. Dr. Godfrey made a motion that a committee be appointed to confer with the school board with reference to the length of time which should elapse between the release from quarantine and the time of the patient's return to school and report results of conference to the society. Motion prevailed. The President appointed as such committee Drs. Godfrey and Fenelon.

Those present were: Drs. G. R. Smith, Chapin, Cantrell, Orner, Covington, Elder, N. K. McCormick, Little, Henline, Hull, A. L. Fox, J. W. Smith, R. G. Yolton, J. L. Yolton, Godfrey, Fenelon, Vandervort, Bath and Rhodes.

Meeting of Jan. 3, 1907.

The January meeting of the McLean County Medical Society was held in the parlors of the Illinois Hotel on the evening of Jan. 3, 1907. Dr. Quine, the speaker of the evening, being unable to be present, a company of thirty-five retired to the ordinary for a very enjoyable hour. The following were present: Dr. and Mrs. Rogers, Dr. and Mrs. Frank Turner, Dr. Frank Wakefield and wife, Dr. Fulwiler and Miss Martin, Dr. and Mrs. A. L. Fox, Dr. and Mrs. Lee Smith, Dr. and Mrs. Fenelon, Dr. Little, Dr. Howell and wife, Dr. F. C. McCormick, Dr. and Mrs. Bath, Drs. J. L. and R. G. Yolton, Dr. Curry, Dr. and Mrs. Brown,

Dr. C. M. Noble, Dr. and Mrs. Covey, Dr. and Miss Hart, Drs. Chapin, Jackman, Rhodes, and the following visitors: Dr. J. F. Page, Eureka, Ill.; Dr. Gardner, Bloomington, and F. B. Lovell, Gibson City, Ill.

Meeting of Feb. 7, 1907.

Owing to inability to operate a stereopticon in the Council Chamber of the City Hall, the February meeting of the McLean County Medical Society was held in the Assembly Hall of the Illinois Hotel on the evening of the 7th.

Dr. C. M. Noble reported for the committee which was appointed to confer with the school board regarding the proper length of time a child who has had an infectious disease should be kept out of school. It was the opinion of the committee that two weeks should be the minimum length of time at which the patient or other members of the family should be allowed to return to school after the discharge of said patient by his physician. Report was accepted and committee discharged.

Dr. Ezra R. Larned, of the Experimental Department of Parke, Davis & Co., addressed the society on the "Practical Application of Bacteriology to the Cure of Disease."

His lecture, although in itself very interesting and instructive, was made more impressive by being copiously illustrated by Mr. Loar's stereopticon. Dr. Larned introduced his subject by referring to the marked progress which had been made in medicine and surgery in the last thirty years, being more, probably, than in the preceding 1,000 years. Harvey, with no knowledge of bacteriology, discovered the circulation of the blood. Virchow, with his cellular theory that all cells emanate from cells; Lister, who believed that healing took place better in an atmosphere laden with vapors produced by evaporating carbolic acid and which later led to more advanced methods of antisepsis; Metschnikoff with his phagocytosis theory, which now appears in the form of the opsonic theory or index; Pasteur and his great work in overcoming the silkworm disease, his studies of hydrophobia, his prophecy that acute infectious disease would be traced to a definite cause. Koch, his discovery of the bacillus of tuberculosis, Koch's law of postulates, the discovery of the cholera spirillum; Koch's tuberculin; Klebs and his discovery of the diphtheria bacillus, did not follow Koch's postulates with it, but Loeffler, working independently at about the same time, did; von Behring, his discovery of antitoxin and patenting of same, thus commercializing a product so potent in saving human lives; Kitasato, a co-worker with Behring and equally entitled to the honors of developing the antitoxin of tetanus and who has done much in the study of bubonic plague; Roux, Pasteur's successor, has popularized antitoxin and developed the antitoxic unit; Ehrlich introduced the "side-chain hypothesis," and Fritz von Schaudinn and Hoffmann discovered the *Spirochæta pallida* which, although Koch's postulates have not been fulfilled, seems to be the cause of syphilis; Karl Weigert found that organisms reacted to analin dyes, therefore the various staining methods; Abbe discovered the Abbe condenser and made investigation of the smaller organisms possible; Major Walter Reed, Lazear and James Carroll investigated the cause of yellow fever, Reed lost his life from the disease; Carroll proved that the mosquito, stegomyia fasciata, is necessary to transmit the disease; Obermeier is given credit of discovering the spirillum which bears his name and is regarded as the specific cause of relapsing fever; Marmorek is associated with the antistreptococcic serum; Shiga, who discovered the Shiga bacillus, has revealed the cause of dysentery, but the serum for treating same has thus far proved ineffective.

Dr. Larned then considered the different steps in the process of manufacture of various sera, showing the care necessary and tests, both microscopical and physiological, which must be passed before the product is sent out for use. He referred to Edward Jenner, the discoverer of vaccination, the methods of procedure in preparing the vaccine, spoke of the extreme ease with which the vaccine organism, which as yet has not been isolated, is destroyed by antiseptics. The doctor recommends that the baby be vaccinated as soon as possible. He spoke of

the success in vaccinating against symptomatic anthrax or black leg, the slight encouragement from the use of serum in leprosy, and our comparative ignorance and inability to cope with hydrophobia.

THOMAS W. BATH, *President.*
O. M. RHODES, *Secretary.*

MORGAN COUNTY.

The Morgan County Medical Society held its regular meeting at the Library Feb. 14, 1907, at 8 p. m., President Dr. E. L. Crouch in the chair. Eighteen members present. The application of Dr. E. F. Leonard for membership in the Morgan County Society was read.

Dr. McLaughlin reported a case of a burn affecting one-third of the patient's body, which terminated in a complete recovery with only one or two small scars. In neutralizing the effect of the burn he used soda and carron oil, then cleansed the surface with dioxogen, after which he applied a Saratoga ointment dressing one-fourth of an inch thick, covered this with cotton and held it in place with bandages. This dressing was not removed until the twelfth day, and then only by sections to prevent shock. After the twelfth day Saratoga ointment dressings were applied every other day for six weeks, first cleansing surfaces with dioxogen before applying dressing. Strychnin, 1/60 gr., was given every four hours until effect was produced, then 1/60 gr. with cod liver oil three times a day until recovery. On the fifth day shock occurred, which lasted five days. During this time slow high enemas of a quart of normal salt solution were given every hour, day and night; ice was applied to the pericardium; digitalis was given to quiet the heart. The urine for the first twenty-four hours after shock was eight ounces, for the second twenty-four hours was forty-five ounces, and after the third twenty-four hours remained at 100 ounces for three days, then gradually increased to normal.

Dr. King cited a case of prolapse of portion of bladder and vagina preceding childbirth.

The paper of the evening was by Dr. Wakely on "Preventive Medicine." Discussed by Dr. Adams, who thought there should be some means to prevent the numerous injuries and deaths which follow each 4th of July. He also thought that there should be less blindness if the cases of ophthalmia neonatorum were given the proper treatment in the first stage of the disease. Dr. Black thought that the municipality should attend to the disinfection in cases of contagion. Dr. McGill spoke of the fumigation carried on in St. Louis, and thought that Morgan County should be more careful, as its death rate was very high. Dr. Baxter spoke on the duties of the health warden of Jacksonville and what he has done in the past. Dr. Baker wanted to know who has charge of the health of the citizens of Jacksonville and if it was in charge of one man alone. Dr. Reid stated that it was impossible to find anything on the ordinance of health in the city of Jacksonville.

Dr. J. F. Percy, president of the state society, gave us an interesting talk. He thought the Morgan County Society was a standard society and one to be held up as an example, and in his opinion it is disloyal for a society to elect a delegate with instructions and send him to the state society and then go back on him. He also spoke of the doctors who cut rates and thought that, as a rule, they charged in ratio of what their services were worth. On a motion of Dr. Pitner the society extended its thanks to Dr. Percy for his interesting address.

ALLEN M. KING, M.D., *Secretary.*

PIATT COUNTY.

THE BUSINESS SIDE OF THE PROFESSION.

JOSHUA G. ELLIS, M.D.
CERRO GORDO, ILL.

It is a proverbial fact that physicians, as a rule, are poor business men; but as to why this should be has not been as yet satisfactorily proven. If any man on earth should have a competency to keep him in his declining years, when he

can no longer perform the arduous duties of his calling, it should be the physician. Who is it that sacrifices more of his time—frequently without remuneration—loses his rest and sleep, that was designed by Nature for him, and spends more of his physical and mental force for the benefit of his patrons, than the physician? He is called upon at all hours of the day and night to administer to the wants of his patients and is expected to respond instantly, regardless of the weather, condition of the roads, the health of himself or family or the financial responsibility of his employer.

The physician in general practice, especially the country practitioner, can have no regular office hours, but is expected to answer at any hour in the twenty-four that he might be called. The merchant has his regular hours for work as well as his rules of business, and the public generally expect him to live up to them. Should a customer come in who was of doubtful financial standing and want to purchase goods on credit, the merchant would not hesitate to tell him that it was against his rules to sell goods on time, and the people would commend him for it and say that he did just right. But should the same man call the doctor to see some member of his family and he would refuse to go, because he knew that he was a dead beat and would not pay, the same people who said that the merchant did right in refusing him credit would say what a hard-hearted man the doctor was for not going to see the sick one when by so doing he would not only lose the time, but would stand a chance of losing other patients while gone, who were good. If it is business for the merchant to not favor the dead beat it is also business for the physician not to favor him, and if the physicians would stand together and educate the people as the business men do, we would not have so many dead beats.

If the doctor wishes to buy a horse he is expected to pay the cash for it or give a bankable note, but should he pull a patient through a long and severe spell of sickness he is not expected to ask for the money or a bankable note as soon as the patient is well. Why? Because he has not educated the people.

There is an old saying that "life is what we make it," and it is just so with business. The great trouble with the medical profession is lack of business methods and organization along the right lines. There is, I am sorry to say, a woeful lack of charity and sociable feeling among physicians. We, of all men, should be bound together by an indissoluble tie as we represent the noblest profession of this world. There is no need of physicians being at "loggerheads" with each other, if every one will observe the golden rule, do his duty and be a man. But jealousy, if not carefully watched, will creep in and, I am sorry to say, there is such a thing as a medical hog abroad in the land. We sometimes meet with road hogs—men who are not willing to give half of the road. And so we sometimes see the medical hog, who wants to do all the work of the neighborhood, regardless of fees, ethics or anything else. How much more pleasant the practice of medicine would be if physicians would treat each other as they should and work to their mutual interest and thereby educate the people to respect the profession as they should.

The physicans of this (Piatt) county met in convention at Monticello October 31 last for the purpose of discussing the advisability of making a uniform rate of fees for the county, as our fees have been very low, considering the wealth of the people and the condition of the roads over which we have to travel—especially through the winter season, and the rise in price of the commodities which has obtained in the last eight or ten years. According to Bradstreet and Dunn, the commodities of life as well as medicine and materials that we are compelled to use, have risen from 25 to 100 per cent. more than they were only a few years ago, and the result is that we shall have to increase our fees so as to bring us up to a level with the balance of mankind or else donate the difference to the public—and the Lord knows that the doctor always donates enough anyway. We had a very enthusiastic meeting, ending with a banquet, and everybody was highly in favor of formulating a fee bill, raising the price something like 25 per cent. over the existing rate, which was done and signed

by all the physicians of the county—twenty-eight in number. It was decided to have the fee bill published in the various county papers so that our patrons could see what was done, as we thought it best to acquaint them with the new scale before it was to go into effect, which was Dec. 1, 1906. But when the papers came out such a storm of opposition! The people rose up in their wrath, held an indignation meeting (at this place), passed resolutions against us, circulated petitions with the intent of getting us to come back to the old fees and threatening us with a boycott if we did not. But for some reason best known to them they did not present their petition. The storm has blown over and we are getting better fees and I think their respect for us has moved up several notches. One brother being more weary than the rest deserted our ranks and advertised over his signature that he would go back to the old fees, but we were not surprised at that, as he has always exhibited symptoms of being closely akin to the animal described above. Why is it that men will stand in their own light? And why is it that they are not willing to do anything that will elevate the profession and cause the public to respect it as they should and at the same time do themselves and families justice? I can see no other reason but that described above.

As stated at the outset, I believe the medical profession to be the most honorable of the earthly professions, and the man who will so demean nimself as to be a disgrace to it should have his certificate revoked and be relegated to the place where he belongs. The good Book says that a man who will not provide for his household is worse than an infidel, and I think that applies to physicians as well as other people. The business man is respected by everyone—even the dead beat—and I think that the physician who is also a business man will have more respect shown him than if he conducts his business in a loose, slipshod manner, even though he be one of the best of physicians.

SANGAMON COUNTY.

The Sangamon County Medical Society met in the Lincoln Library, Springfield, Ill., Feb. 11, 1907, at 8 p. m., Dr. A. D. Taylor presiding. Dr. Arthur Prince reported a case of gonorrheal ophthalmia treated by a 10 per cent. solution of silver nitrate. Dr. Don Deal read a paper entitled "Indications for the Technic of Prostatectomy." The chair was instructed to appoint a committee to ascertain the number of delinquent members in this society. Drs. A. D. Taylor, C. L. Patton and C. R. Spicer were appointed. The names of Drs. Frank Wheeler and Paul Bain were proposed for membership.

The amendment proposed at the last meeting, "That four be substituted for three dollars in Section 1 and Section 2 of Chapter 5, in the existing by-laws," was adopted. The following resolution was adopted: "Resolved, That our representatives in the legislature be respectfully requested to oppose the passage of Senate Bill No. 21 and House Bill No. 66, providing for the creation of a board of osteopathic examiners." The chair was instructed to appoint a committee of twelve to attend the committee meeting of the Committee on Miscellany of the House of Representatives at the time of reading of the osteopathic house bill. Drs. Nelson, Berry, Griffith, Barker, Spicer, Patton, Tuttle, Arthur Prince and Bowcock were appointed.

The regular monthly meeting was held in the Lincoln Library, Springfield, Ill., at 8 p. m., March 11, 1907, Vice President C. M. Bowcock, presiding. Dr. Ryan gave an informal talk on Gallstones, and showed many interesting specimens. Moved and carried that the Sangamon County Medical Society make a donation of $3 to the Ensign-Hollister memorial fund. Dr. J. R. Rigg of Mount Pulaski and Dr. Paul Bain were elected to membership. The names of Dr. Salyers and Dr. Boyd of Springfield were presented to the society and the applications referred to the Board of Censors.

The following resolution was adopted: "Resolved, That the Sangamon County Medical Society respectfully petition the members of the House of Repre-

sentatives from this district to use their influence in the passage of House Bill No. 468, and that a copy of this resolution be sent to each member of the house from this district."

VERMILION COUNTY.

The Vermilion County Medical Society met Monday evening, March 11, 1907, in the City Hall, Danville. The committee appointed for the purpose presented the following memorial on the death of our honored member, Dr. Clark Leavitt:

IN MEMORIAM.

We, the members of the Vermilion County Medical Society, should pause and consider. Another brother has fallen by the wayside. Not as one going down in an unequal struggle, weary of the journey of life, but as one rejoicing in the contemplation of his own usefulness. One who drank at the wellspring of knowledge, one ripe in experience and years, one who had filled the measure of life, but still labored in the field.

By the death of our venerable brother, Dr. Clark Leavitt, the community has lost an honored citizen, our profession a shining light, and humanity a friend.

We followed him with measured tread to the cheerless, voiceless city of the dead. He has responded to his last call for aid, he has ministered to his last sufferer, his work is finished and the great physician of the universe has called him home.

To the bereaved wife, daughters and sons, over whom has passed the heaviest billow that rolls life's turbulent sea, we extend our heartfelt sympathy. Words only confuse, yet we beg of you to remember that we admired him for his generosity, respected him for his candor, honored him for his wisdom, and loved him for those most sterling qualities that marked him a man.

S. C. GLIDDEN,
W. A. COCHRAN,
E. B. COOLLEY,
Committee.

On account of severe storm and small attendance the program was set aside for the April meeting. T. E. Walton was elected delegate to the state meeting and R. A. Cloyd as alternate.

E. E. CLARK, *Secretary.*

NEWS OF THE STATE.

Rockford reports a severe epidemic of influenza.

Dr. William J. Butler left for Europe February 23.

Dr. A. W. Davisson has removed to Corpus Christi, Texas.

Dr. Charles E. Donahoo, Hillsdale, is ill with scarlet fever.

On February 27 Jacksonville had seven cases of smallpox.

Dr. Charles Seaton, of Zenobia, has removed to Morrisonville.

Dr. William J. Rideout, Freeport, sailed last week for Europe.

Dr. J. L. Miller, of Chicago, sailed for Europe March 20, 1907.

Dr. Frederick A. Renner has removed from St. Jacob to Benld.

Dr. P. H. Oyler, formerly of Mt. Pulaski, is farming in Arkansas.

Dr. and Mrs. John B. Murray, Chicago, left for a trip to California.

Dr. Alvin N. Keith, Peoria, is suffering from a severe attack of motor aphasia.

Plans are being perfected to erect a hospital at Benld, Macoupin County.

Dr. Marvel Thomas and wife, of Gillespie, are spending the winter in Florida.

Dr. and Mrs. Philip H. Matthei celebrated their fiftieth wedding aniversary March 5.

Dr. and Mrs. Charles P. Small, Chicago, have engaged passage for Naples, sailing June 8.

Dr. Harry B. Baily, Rockford, was operated on for appendicitis at St. Anthony's Hospital February 13.

Dr. S. J. King, of Pittsfield, has recently purchased property which he will convert into a sanitarium.

The city council of Chicago has recommended a large appropriation for the Health Department of that city.

Dr. P. J. Hoshie Farrell, Chicago, has recovered from his recent serious illness and has resumed practice.

Scarlet fever at the Girls' Home, Geneva, has apparently taken a new start, 41 cases in all having been reported.

Dr. John W. Tope, Oak Park, has broken down from overwork in connection with the new Oak Park hospital.

The case against Dr. Wilbur V. Johnson, charged with assisting in an illegal operation, was dismissed February 15.

Dr. Harney has removed from Auburn to East St. Louis and formed a partnership with Dr. Hart, formerly of Auburn.

Dr. Edmund H. Douglas, of Petroleum, W. Va., has formed a partnership with Dr. J. H. Dickerson, of Taylorville.

Dr. Gottfried Koehler, Chicago, stood at the head of the list as the result of the examination for chief food inspector.

The American College of Medicine and Surgery, Chicago, has changed its name to the Chicago College of Medicine and Surgery.

Dr. Charles E. Ericson has been appointed assistant surgeon at the Soldiers' Home, Quincy, vice George E. Rosenthal, deceased.

Dr. Charles E. Crawford, Rockford, has been appointed by the State Board of Health inspector for the northern district of Illinois.

Dr. John F. Snyder, Monroe Center, was rendered unconscious by being thrown from his buggy in a runaway accident February 24.

Dr. Charles E. Crawford, Rockford, made an inspection of the small-pox epidemic at East Aurora. He found six cases, all of a mild type.

Dr. Arthur D. Bevan, Chicago, chairman of the Council on Medical Education, is taking a trip along the Pacific Coast, visiting medical colleges.

On the evening of March 11 Maude Adams gave a performance of "Peter Pan" for the benefit of the Children's Hospital Society; $4,500 was realized.

Dr. Ralph T. Hinton, Quincy, has been elected secretary of the Adams County Medical Society, to fill the unexpired term of the late Dr. George E. Rosenthal.

Dr. T. B. Spalding, of Decatur, who is under indictment on the charge of performing a criminal operation, has been arrested and brought back to Decatur.

Dr. James N. Kearney, Lamont, has been appointed a member of the staff of the Illinois Northern Hospital for the Insane, vice Dr. Claude F. Shonts, resigned.

Dr. Walter R. Schussler, of Orland, Cook County, was appointed a member of the State Board of Health on February 27 to succeed Dr. W. Harrison Hipp, deceased.

The Varvil suit for malpractice, in which damages of $10,000 were sought against Dr. Albert L. Ward, Bement, in the Piatt County Circuit Court, has been dismissed.

Appleton & Co. have recently issued a new and complete catalogue of their medical publications. A copy of this catalogue will be sent to anyone upon receipt of a postal card.

William J. Black, Rockford, charged by the State Board of Health with practicing medicine without a license, did not appear when his case was called March 5, and was fined $200.

While driving across the railroad track the buggy of Dr. Jay A. Logan, Bartonville, was struck by an engine. Dr. Logan was thrown about twenty feet, escaping, however, with slight injuries.

Dr. H. C. Blankmeyer, of the State Board of Health, has completed his report on the conditions at Springfield. He finds that the wells of the city are the principal cause for 56 cases of typhoid fever.

An appropriation of $10,000 has been voted by the Chicago Board of Underwriters to endow a room in the Presbyterian Hospital in memory of the late Edward M. Teall, formerly president of the board.

Dr. R. E. Emery, of Peoria, was arrested on a warrant recently, charging him with the murder of Pauline Schneider, 19 years old, who died at St. Francis Hospital as the result of a criminal operation.

At the interne examinations at Cook County Hospital, which began March 11, 111 applicants appeared. The examination continued through three days. The appointment of those who are successful will be made in July.

Dr. J. C. Sanders, of Rock Island, has been appointed medical examiner for the civil service department at the postoffice at Rock Island, Ill. His duties are to issue medical certificates and examine all applicants.

Dr. Elizabeth Matthews, of Springfield, has returned from a trip to the Orient. While on the Indian Ocean, Dr. Matthews had the experience of a fire at sea and was rescued from the burning ship by an English warship.

The Cincinnati Sanitarium has recently issued its thirty-third annual report. The report gives a complete account of medical statistics of the sanitarium and descriptions of its facilities and contains some cuts of building.

It is announced that Andrew Carnegie will contribute $100,000 toward the building of a new home for the College of Physicians of Philadelphia. The contribution is made on condition that the members of the society raise an equal amount.

Dr. Earl J. Dennis, 182 State street, Chicago, recently entered a plea of guilty before Judge Kersten to the charge of having caused the death of Bertha Johnson, 1210 Penn street. She died last October following an operation performed by Dr. Dennis.

During the week ended March 18 eight cases of smallpox were found in Chicago and the patients sent to the Isolation Hospital. An unvaccinated Pullman car porter on the Rock Island system is said to have been responsible for at least three of these cases.

Dr. W. P. Spratling, superintendent of the New York State Colony for Epileptics, Sonyea, gave an address in the senate chamber, Springfield, February 26, on the colony treatment of epileptics, under the auspices of the Children's Hospital Society, Chicago.

The Friedlander Company has been sued by one John F. Maxwell, a painting contractor, to recover $25,000 damages, alleged for injuries suffered from an *x*-ray machine. He says, owing to the negligence of the operator, he was shocked severely and otherwise injured.

Dr. Howard A. Kelly has in hand the preparation of a Cyclopedia of American Medical Biography. Drs. Welsh, Olser, Burrage, Steiner, Packard and others will contribute to the various branches of medicine. No living exponent will be eligible to a place in the work.

During 1906, 2,955 ill and injured persons were given care at the Alexian Brothers Hospital. In addition, treatment was given to 3,050 patients in the sanitarium adjoining the hospital. It is reported that work will begin in April on the front wing of the hospital.

The women of East St. Louis have organized a ladies' auxiliary in the interests of the Henrietta Hospital. The first work which they will undertake will be the erection of a dormitory for nurses, so that the quarters now used for that purpose may be devoted to a children's ward.

The Illinois State Board of Health, in its January and February bulletins, published the full text or abstracts of bills of medical interest before the state legislature, giving also the personnel of the various house and senate committees who held these bills under consideration.

Subscriptions are being solicited for the work of the Chicago Tuberculosis Institute, which wishes to raise $25,000 for a tuberculosis dispensary, a day camp and a tuberculosis hospital; for the investigation of hygienic conditions of factories, stores and schools and for a lecture course.

Representative Schaeber has introduced a bill in the legislature for an appropriation of $5,000 for the support of Vincent Ward North, who was born at the Illinois Eastern Hospital for the Insane at Kankakee last year. Katherine Ward, sent to the hospital from Urbana, is the mother.

The Chicago police are searching for Mrs. Kunigundi Hartman, 35 years old, a midwife, who formerly lived at 1578 Miller avenue. Mrs. Ella Brunswick, 24 years old, of 86 Nebraska avenue, recently died as a result of an alleged illegal operation said to have been performed by her.

The Journal of Inebriety and the *Archives of Physiological Therapy* have been consolidated and will hereafter be published as a part of the *Journal of Inebriety*. In the opinion of its managers its scientific value would be greatly enlarged by concentrating its work along some special lines.

Mr. M. A. Lane, formerly of the department of anatomy at the University of Chicago, has taken charge of the histology work at the Turck Institute, Chicago, and Professor Conrad Jacobson, professor of physiologic chemistry at Armour Institute, has accepted the position of food analyst.

Dr. W. S. McClanahan, of Woodhull, Ill., has sold his practice, property, etc., and the purchaser takes possession April 1st. Dr. McClanahan expects to spend the summer recuperating and in post-graduate work, and will not locate before the 1st of September. Until located, his address will be Monmouth, Ill.

During the first week of the ambulance service in Chicago, under the care of the Department of Health, the surgeons treated 60 sick and injured persons, and 226 patients were given first aid, of whom 183 were removed to the hospital and 37 taken home. Two insane persons were cared for and 9 dead bodies removed.

At a meeting of the State Board of Health, March 15, arrangements were made for the annual inspection of the medical colleges of Chicago and Cook County. These examinations are held by the board to ascertain whether or not all the provisions under which they are operating under the state law are being observed.

Dr. Harriet A. Hook, of Chicago, graduate of Rush Medical College, 1905, has taken a position at the Asylum for Feeble-minded Children at Chicago. Since her graduation she has been engaged as junior physician at the Cook County Hospital at Dunning, the Woman's and Children's Hospital at San Francisco, and the state hospital for the insane at Anna.

There have been put upon the market a number of thermometers to be used in cooking, registering heat from 100 to 600 degrees F. By means of this aid, cooking may be reduced to something like an exact method. For the preparation of various foods for the sick and in diet kitchens, their use should become as systematic as that of the clinical thermometer at the bedside.

Dr. Adolph Buettner, of 679 Lincoln avenue, Chicago, has been held to the grand jury by a coroner's jury on a charge of murder. The patient was a Miss Nellie Walsh, who signed a statement on her deathbed in which she accused Dr. Buettner. Dr. Buettner denied having operated on her, but admitted that he had been indicted seven or eight years ago for an illegal operation, but says he had been discharged.

After a fight of a number of years the so-called pharmacy of Dr. Adolph Brendecke, situated at Sangamon and Randolph streets, Chicago, has been closed and his lawyer says is to remain closed. Repeatedly the proprietor of this store has been convicted of selling cocain and his place of business has been considered a resort for all the dope fiends of the West Side. The police and charitable organizations have been attempting to secure this result for a number of years.

The Chicago Externes' Sanitarium, 4427 Michigan avenue, is erected and equipped with the most approved apparatus for the application of physical therapeutic measures. The patient, not too seriously ill, may obtain all the benefits of a thoroughly equipped institution without being deprived of the guidance of his own medical adviser, without being removed from family and friends, which is not always necessary, and without sacrificing his earning capacity—a very important consideration in many cases.

The Logan County Medical Society held its annual meeting at Lincoln February 21 and elected the following officers: C. E. Rembe, president; first vice-president, C. C. Montgomery; second vice-president, H. M. Van Hook; secretary, H. S. Oyler; treasurer, A. M. Sargent; board of censors, S. Rourke, B. P. Bradburn, J. L. Lowrie; delegate to the state convention, H. S. Oyler; alternate, C. Rembe. Four new members taken into the society were: F. M. Ewing, H. B. Brown, J. R. Rigg and P. H. Leonard.

On January 3 the formal acceptance of the two collections of books presented to the library of the Johns Hopkins Medical School was made, with addresses by Dr. William Osler and Dr. Wm. H. Welsh. The Marbury collection is the old Warrington Dispensary Library of Liverpool, containing 944 volumes of the sixteenth, seventeenth and eighteenth centuries, and is especially valuable for the study of the history of medicine. The Jenks collection is on monstrosities and numbers 936 volumes. It is the Friedrich Ahlfeld Library of Marburg, Germany.

At the annual meeting of the Chicago Medical Examiners' Association, held January 21, the association endorsed the action of the Committee on Medical Legislation of the American Medical Association in advocating the establishment of a national department of health; also the action taken by the council of the Chicago Medical Society protesting

against the passage by the U. S. Congress of bill No. 5221, entitled "An act to regulate the practice of osteopathy in the District of Columbia." The following officers were elected: President, Dr. J. Allen Patton; secretary, Dr. E. Eisenstadt; treasurer, Dr. Ulysses Grim; councilor, Dr. E. L. Hayford.

The new Oak Park Hospital, which is nearing completion after five years' endeavor on the part of Dr. John W. Tope, was opened to visitors March 16. The hospital is in charge of the Sisters of Misericordia, Montreal, Quebec, and was formally dedicated April 3. The building will have cost $150,000. The operating rooms are two in number and are lighted by large north windows and skylights. The floors are of white tile, and the walls are wainscoted with heavy white plate glass to a height of seven feet. The hospital grounds contain one acre. About $5,000 additional for the equipment of the surgical department was secured by the physicians of the staff.

The proposed installation of the Formozone Acme system of air cleaning and purifying in the Horace Greeley School, at Grace street and Sheffield avenue, Chicago, is being watched with interest by physicians and educators, for it promises to solve the question of preventing the spread of contagious disease in school buildings. The system is based on the principle that foul air makes the well ill and that pure air makes the ill well. The ventilation at the Horace Greeley School requires the handling of 51,000 cubic feet a minute by fan-blower system. In connection with it it is proposed to install the Thomas Acme cooling system for governing humidity and cooling the air.

In the case of the State Board of Health against Dr. P. C. Bacon, which was tried in the county court, the jury this morning brought in a verdict finding the defendant not guilty. In this case it was attempted to collect a penalty for violation of the medical practice act by producing evidence that Bacon advertised himself as a neurologist and ophthalmologist and professed to cure disease without the use of drugs while he had no license. It could not be shown that he had actually treated anyone. Charles E. Selby, the attorney for the board, insisted that the fact that the defendant professed to cure disease and advertised to treat persons was an offense against the law as much so as if he had actually done so.

At the meeting of the Illinois State Board of Health held in Chicago March 15, 1907, the following resolutions were adopted:

WHEREAS, The members of the Illinois State Board of Health have carefully read and considered the correspondence between the President of the Illinois State Medical Society and the President and Secretary of the State Board of Health, as set forth in communications dated, respectively, Feb. 25 and 27 and March 2, 6, 11 and 14, 1907; and,

WHEREAS, The President of the Illinois State Medical Society purposes that the members of the State Board of Health meet in conference with certain officers of the Illinois State Medical Society; be it

Resolved, That the members of the State Board of Health hereby express a desire to cooperate, in every way, with the Illinois State Medical Society and all other medical organizations of the state, for the good of the people of the state or the betterment of the public health; and be it further

Resolved, That the Secretary of the State Board of Health be directed to extend a cortial invitation to the President, officers of the Illinois State Medical

Society and to the representatives of the Illinois Homeopathic Medical Association, the Illinois State Eclectic Medical Society and the Illinois Physio-Medical Society, to meet with the State Board of Health, in Chicago, at the Great Northern Hotel, on Thursday, April 4, 1907, to confer regarding measures contemplated to improve the public health, to elevate the standards of medical education, to advance the interests of the legally qualified physicians of the state, and to promote a warmer feeling of concord and cooperation between the state medical societies and the State Board of Health.

Pursuant to the above resolutions, the secretary of the State Board of Health sent invitations to the various presidents and officers above named and the following members were present at the meeting in the Great Northern Hotel April 5, 1907:

J. F. Percy, Galesburg; J. W. Smith, Bloomington; C. C. Hunt, Dixon; J. H. Stealy, Freeport; C. E. Black, Jacksonville; C. Barlow, Robinson; L. C. Taylor, Springfield; F. P. Norbury, Jacksonville; H. N. Moyer, Chicago; George N. Kreider, Springfield; E. W. Weis, Ottawa; M. L. Harris, Chicago; R. B. Preble, Chicago; G. E. Baxter, Chicago; J. H. Stowel, Chicago; Hanks, Chicago; Smith, Freeport; R. W. Webster, Chicago; Hazelton, Chicago; N. J. Pollock, Chicago; Sweet, Chicago; Costain, Chicago; W. E. Kinnett, Peoria; J. B. Davis, Pontiac; C. H. Bushnell, Chicago; J. D. Robertson, Chicago; Lewis, Chicago; J. W. Russell, Chicago; Fuller, Chicago; C. L. Mix, Chicago; E. H. Ochsner, Chicago; R. T. Gilmore, Chicago; P. H. Wessel, Moline; J. A. Egan, Springfield; J. C. Sullivan, Cairo.

In the absence of Dr. George W. Webster, president of the State Board of Health, Secretary Dr. J. A. Egan called the meeting to order and Dr. P. H. Wessel was unanimously elected chairman of the conference. Dr. J. A. Egan was elected secretary.

The Illinois State Board of Health invited those present to offer suggestions or criticisms on the administrative policy of the State Board. A very considerable discussion was indulged in and many sharp criticisms offered to the policies of the State Board of Health, resulting in the following formal action of the conference: That, in order to reach definite conclusions and formulate systematic plans of action, various subjects be suggested and committees be appointed to consider them and report at a subsequent meeting, with the exception of the committee on legislative matters, who were instructed to report after recess. The following subjects were voted and the members appointed to consider each subject:

1. Reciprocity, Black, Hazelton, Russell.
2. Medical education in Illinois, Norbury, Sweet, Bushnell.
3. Relation of State Board of Health to local health boards, Stowell, Davis, Kahlke.
4. To investigate methods of conducting examinations of candidates for license and method pursued in connection with administration of medical practice act among unlicensed practitioners, Preble, Costain, Robertson.
5. To promote cooperation between state medical societies and State Board of Health, Harris, Smith (Freeport), Kinnett.
6. Cooperation between schools of medicine, Percy, Hanks, Pollack, Hadley.

NEW INCORPORATIONS.

The Secretary of State, at Springfield, has recently issued licenses to the following new incorporation:

Modern Maccabee Hospital Association, Chicago, to conduct a hospital and training school for nurses; incorporators, J. A. Hynes, E. S. Shaver, Walter C. Williams.

MARRIAGES.

A. MERRILL MILLER, M.D., to Miss Jeannett Penwell, both of Danville, Ill., recently.

O. P. GRANT, M.D., Cantrall, Ill., to Miss Mabel Irene Green, of Chicago, January 9.

CARL P. STRUVE, M.D., South Elgin, Ill., to Miss Jessie Margaret Burns, of Chicago, February 24.

ISAAC EUGENE NERVIG, M.D., to Miss Edna Shadle, both of Sioux City, Iowa, at Harvey, Ill., March 2.

DEATHS.

J. W. MURFIN, M.D., Vernon, Ill., died Feb. 23, 1907.

D. M. RIDER, M.D., formerly a prominent physician of Chandlersville, died recently at his home in Indiana.

WILLIAM H. HODGSON, M.D., Royal College of Physicians, London, 1866, died in Mattoon, Ill., February 18, aged 73.

STEPHEN D. MESERVE, M.D., Miami Medical College, Cincinnati, 1857, died at his home in Robinson, Ill., January 27, aged 80.

OSCAR ROBERT BLUTHARDT, M.D., Rush Medical College, 1886, died at his home in Chicago, March 12, from apoplexy, after an illness of four weeks, aged 55 years.

FRANK W. HOMER, M.D., Hahnemann Medical College and Hospital, Chicago, 1897, of Spokane, Wash., died at his farm on White Bluff Prairie, from nephritis, February, 1907.

PATTERSON LEONARD MCKINNIE, M.D., Rush Medical College, Chicago, 1872, a retired practitioner of Evanston, Ill., surgeon during the Civil War, died at Riverside, Cal., March 3, from heart disease, aged 62.

WM. S. D. JOHNSON, M.D., Medical Department of the University of Missouri, St. Louis, 1850, for many years a practitioner of La Belle, Mo., died at the home of his son in Versailles, Ill., February 22, after an illness of five days, aged 83.

DR. J. B. MCDOWELL, of Mason City, Ill., the last survivor of the Mexican War in Mason County, aged 89 years, died March 16. He was 62 years a practicing physician in Mason County, having graduated in 1845 at the Missouri Medical College, St. Louis.

HENRY C. FAULKNER, M.D., Leonard School of Medicine, Medical Department of Shaw University, Raleigh, N. C., 1894, formerly a prac-

titioner of Chicago, but for the last four years a missionary on the West Coast of Africa, secretary of the board of health, Monrovia, Liberia, and city and harbor physician, died from pneumonia Dec. 11, 1906.

EUGENE MARGUERATE, M.D., New York University Medical College, 1859, a member of the State Medical Society, and in 1868 president of the Cook County Medical Society, a surgeon in the Army throughout the Civil War, and one of the best known practitioners of Chicago, died at his home March 7, from cerebral hemorrhage, after an illness of one week, aged 78.

J. D. PATTERSON, M.D., one of the oldest physicians in Illinois, died at Galva, Feb. 6th, of senile debility, aged 87 years. He was graduated from Transylvania College, practiced for a time in Pittsburg, Pa., and in 1851 came to Oquawka, where he lived till the outbreak of the Civil War, where he enlisted as a surgeon. At the close of the war he moved to Galva, where he remained until the time of his death.

DAVID BELL KERR, M.D., University of Virginia, Medical Department, Charlottesville, 1893, who entered the medical department of the United States Navy June 1, 1898, and was commissioned surgeon April 5, 1905, examining surgeon for the Naval Recruiting Station, Chicago, who had a total sea service of six years and five months, died at his home in Chicago, March 19, from cirrhosis of the liver, after an illness of three months, aged 35.

BOOK NOTICES.

TUMORS, INNOCENT AND MALIGNANT, THEIR CLINICAL CHARACTERS, AND APPROPRIATE TREATMENT, by J. Bland-Sutton, F.R.C.S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital. Fourth Edition, with Three Hundred and Fifty-five Engravings. Chicago, W. T. Keener & Company, 90 Wabash Avenue. 1907. Price Five Dollars Net. This well known work on tumors has, in less than four years, reached the fourth edition, and practically stands alone as a standard work on teh conditions of which it treats. It considers the subject from all sides and is well worth a place in every medical library. Mr. Keener deserves great credit for securing the publication of this standard work.

AMERICAN PRACTICE OF SURGERY, A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., and Albert H. Bucks, M.D., of New York City. The second volume of this system comprises parts six to ten inclusive and sustains the high character found in the first volume. No student of surgery in America can afford to be without this valuable system. Messrs. William Wood and Company, of New York City, publishers.

NEW MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY.

During the month of February the following physicians became members of the Illinois State Medical Society:

COOK COUNTY.

Abbey, Chas. D.
Bacon, M. W.
Dyas, Frederick G.
Friedman, Isaac.
Gregg, Robert S.
Graham, J. A.
Hager, D. S.
Hatterman, Carl.
Hirschfield, S. H.
Johnson, Walker W.
Kneating, R. E.
Kinnaman, Guy C.
Metcoff, S.
Maurits, William.
Parson, G. F.
Ruggles, E. W.
Roberts, Harold H.
Secor, Wm. Lee.
Sears, Heber J.
Tufts, F. S.
Waterman, Sigmar Franklin.
Wayland, Shipley.
Wright, Frank.
Werelius, Alex.

CARROLL COUNTY.

Burton, R. C., Savanna.
Wales, A. H., Lanark.

CHRISTIAN COUNTY.

Douglas, E. H., Taylorville.
Huber, Jacob, Pana.
Lawler, T. A., Taylorville.
Windsor, Bennett P., Mt. Auburn.

CLINTON COUNTY.

Gissy, G. A., New Baden.

DUPAGE COUNTY.

Langhorst, Henry F., Elmhurst.

FULTON COUNTY.

Putman, H. C., Canton.

HENDERSON COUNTY.

Harter, I. F., Stronghurst.

HENRY COUNTY.

Mannon, J. H., Kewanee.

JO DAVIESS COUNTY.

Cottral, H. C., Hanover.
Renwick, J. C., Warren.

JACKSON COUNTY.

Etherton, J. C., Murphysboro.
Lee, A. M., Deming.

LASALLE COUNTY.

Corbus, J. C., Mendota.

MACOUPIN COUNTY.

Bartlett, A. T., Cullman.

MARION COUNTY.

Mal, H., Salem.

OGLE COUNTY.

Moore, E. B., Kings.

SHELBY COUNTY.

Cherry, T. Ewing, Cowden.
Eddy, W. J., Shelbyville.
Monroe, H. E., Shelbyville.

ST CLAIR COUNTY.

Little, R. M., East St. Louis.
Lippert, J., East St. Louis.
Smith, Harvey S., East St. Louis.

VERMILION COUNTY.

Allison, O. W., Catlin.
Dice, H. F., Ridgefarm.
Hinshaw, D. C., Ridgefarm.
James, J. M., Henning.
Nebeker, E. F., Danville.
Tennery, N. F., Danville.
Turner, J. W., Catlin.

WASHINGTON COUNTY.

Estel, Dr., Venedy.
Green, George, Hoyleton.
Obert, Wm., New Minden.
White, J. F., Richview.

WABASH COUNTY.

Manley, R. S., Mt. Carmel.

ILLINOIS STATE MEDICAL SOCIETY

SECTION OFFICERS AND COMMITTEES.

SECTION ONE.

C. W. Lillie, E. St. Louis.....Chairman
Ralph W. Webster, 100 State St., Chicago..
.....Secretary

SECTION TWO.

E. H. Ochsner, 710 Sedgwick, St., Chicago.
.....Chairman
H. W. Chapman, White Hall.....Secretary

COMMITTEE ON PUBLIC POLICY.

Robert B. Preble, Chairman.
Carl E. Black, Jacksonville.
J. W. Pettit, Ottawa.
The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL LEGISLATION.

L. C. Taylor, Springfield.
M. S. Marcy, Peoria.
J. V. Fowler, Chicago.
The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL EDUCATION.

Frank P. Norbury, Jacksonville.
J. F. Percy, Galesburg.
C. L. Mix, Chicago.

COMMITTEE ON SCIENTIFIC WORK.

The Section Officers.
The President and Secretary.

COUNTY SOCIETIES.

This list is corrected in accordance with the best information obtainable at the date of going to press. County secretaries are requested to notify THE JOURNAL of any changes or errors.

Adams County.

J. M. Grimes, Pres.....Camp Point
George E. Rosenthal, Secy.....Quincy

Alexander County.

Samuel B. Cary, Pres.....Cairo
J. T. Walsh, Secy.....Cairo

Bond County.

John W. Warren, Pres.....Greenville
J. C. Wilson, Secy.....Greenville

Boone County.

R. W. McInnes, Pres.....Belvidere
R. B. Andrews, Secy.....Belvidere

Brown County.

S. J. Wilson, Pres.....Versailles
F. E. McGann, Secy.....Mt. Sterling

Bureau County.

J. C. White, Pres.....Seatonville
O. J. Flint, Secy.....Princeton

Calhoun County.

I. S. Berry, Pres.....Batchtown
Stephen Platt, Secy.....Hardin

Carroll County.

G. W. Johnson, Pres.....Savanna
H. S. Metcalf, Secy.....Mt. Carroll

Cass County.

C. M. Hubbard, Pres.....Virginia
J. A. McGee, Secy.....Virginia

Champaign County.

C. M. Craig, Pres.....Champaign
C. D. Gulick, Secy.....Urbana

Clark County.

Geo. T. Rowland, Pres.....Martinsville
L. J. Wier, Secy.....Marshall

Clay County.

W. E. Burgett, Pres.....Louisville
C. E. Duncan, Secy.....Flora

Christian County.

J. J. Conner, Pres.....Pana
D. D. Barr, Secy.....Taylorville

Clinton County.

T. E. Alsop, Pres.....Carlyle
C. H. McMahan, Secy.....Carlyle

Coles County.

N. C. Iknayan, Pres.....Charleston
O. M. Ferguson, Secy.....Mattoon

Cook County—Chicago Medical Society.

G. W. Webster, Pres.....Chicago
R. T. Gilmore, Secy.....Chicago

Crawford County.

F. Dunham, Pres.....Robinson
H. N. Rafferty, Secy.....Robinson

Cumberland County.

G. E. Lyon, Pres.....Robinson
Will L. Smith, Secy.....Toledo

DeKalb County.

J. A. Badgley.....De Kalb
C. H. Mordoff, Secy.....Genoa.

De Witt County.

J. M. Wilcox, Pres.....Clinton
A. E. Campbell, Secy.....Clinton

Douglas County.

E. S. Allen, Pres.....Arcola
Walter C. Blaine, Secy.....Tuscola

Du Page County.

(Affiliated with Cook County.)

Edgar County.

W. S. Jones, Pres.....Redmon
W. H. Ten Broeck, Secy.....Paris

Edwards County.

W. E. Buxton, Pres.....Samsville
J. H. Lacey, Secy.....Albion

Effingham County.

T. J. Dunn, Pres.....Dieterich
C. F. Burkhardt, Secy.....Watson

Fayette County.

H. D. Smith, Pres.....Vandalia
A. L. T. Williams, Secy.....Vandalia

Franklin County.

A. G. Orr, Pres.....Benton
W. H. Smith, Secy.....Benton

Fulton County.

T. R. Plummer, Pres.....Farmington
D. S. Ray, Secy.....Cuba

Gallatin County.

I. A. Foster, Pres.....New Haven
J. W. Bowling, Secy.....Shawneetown

Greene County.

H. W. Chapman, Pres.....Whitehall
H. A. Chapin, Secy.....Whitehall

Grundy County.

W. E. Walsh, Pres.....Morris
H. M. Ferguson, Secy.....Morris

Hamilton County.

I. I. Hall, Pres.....Broughton
G. N. Lyons, Secy.....McLeansboro

Hancock County.

S. M. Parr, Pres.....Fountain Green
Wm. Blender, Secy.....Carthage

Hardin County.

F. M. Fowler, Pres.....Elizabethtown
R. H. Willingham, Secy.....Elizabethtown

Henderson County.

I. F. Harter, Pres.....Stronghurst
Ralph Graham, Secy.....Biggsville

Henry County.

J. E. Westerlund, Pres.....Cambridge
H. W. Waterous, Secy.....Galva

Iroquois-Ford District.

D. W. Miller, Pres.....Gilman
Robt. Lumley, Secy.....Watseka

Jackson County.

O. R. Ormsby, Pres.....Murphysboro
W. C. Hill, Secy.....Murphysboro

Jasper County.

H. S. Hinman, Pres.....Newton
Jas. P. Prestley, Secy.....Newton

Jefferson County.

J. H. Mitchell, Pres.....Mt. Vernon
J. R. Whitlock, Secy.....Mt. Vernon

Jersey County.

A. K. Van Horne, Pres.....Jerseyville
H. R. Bohannan, Secy.....Jerseyville

Jo Daviess County.

E. M. Bench, Pres.....Galena
D. G. Smith, Secy.....Elizabeth

Johnson County.
H. D. Larue, Pres.....New Burnside
H. O. Williams, Secy.....Belknap

Kane-McHenry District.
J. F. Bell, Pres.....Elgin
G. S. Allen, Secy.....Aurora

Kankakee County.
B. F. Uran, Pres.....Kankakee
A. S. Kenega, Secy.....Kankakee

Kendall County.
T. B. Drew, Pres.....Oswego
R. A. McClelland, Secy.....Yorkville

Knox County.
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G. S. Bower, Secy.....Galesburg

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A. C. Haven, Secy.....Lake Forest

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F. A. Wiley, Pres.....Earlville
W. A. Pike, Secy.....Ottawa

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B. F. Hockman, Pres.....Sumner
C. P. Gore, Secy.....Lawrenceville

Lee County.
C. H. Ives, Pres.....Dixon
S. W. Lehman, Secy.....Dixon

Livingston County.
G. C. Lewis, Pres.....Fairbury
John Ross, Secy.....Pontiac

Logan County.
L. L. Leeds, Pres.....Lincoln
H. S. Oyler, Secy.....Lincoln

McDonough County.
J. B. Bacon, Secy.....Macomb

McHenry County.
(See Kane-McHenry District.)

McLean County.
Thos. W. Bath, Pres.....Bloomington
O. M. Rhodes, Secy.....Bloomington

Macon County—Decatur Medical Society.
C. Chenowith, Pres.....Decatur
M. W. Fitzpatrick, Secy.....Decatur

Macoupin County.
J. M. English, Pres.....Gillespie
J. P. Matthews, Secy.....Carlinville

Madison County.
G. W. Hinchee, Pres.....Mors
E. W. Fiegenbaum, Secy.....Edwardsville

Marion County.
J. E. Schoonover, Pres.....Salem
W. W. Murfin, Secy.....Patoka

Marshall County.
J. W. Potts, Pres.....Lacon
J. A. Swem, Secy.....Henry

Mason County.
H. H. Hanley, Pres.....Havana
A. L. Cook, Secy.....Mason City

Massac County.
M. H. Trovillion, Pres.....Metropolis
A. C. Ragsdale, Secy.....Metropolis

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A. L. Britten, Pres.....Athens
Irving Newcomer, Secy.....Petersburg

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V. A. McClanahan, Pres.....Viola
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Otto Kuehn, Pres.....Burksville
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Montgomery County.
P. M. Kelly, Pres.....Litchfield
H. F. Bennett, Secy.....Litchfield

Morgan County.
Josephine Milligan, Pres.....Jacksonville
David W. Reid, Secy.....Jacksonville

Moultrie County.
W. E. Stedman, Pres.....Sullivan
F. P. Zerfass, Secy.....Sullivan

Ogle County.
J. A. Johnston, Pres.....Byron
F. W. Mitchell, Secy.....Leaf River

Peoria City Medical Society.
B. M. Stephenson, Pres.....Peoria
J. H. Bacon, Secy.....Peoria

Perry County.
W. L. McCandless, Pres.....Pinckneyville
J. W. Smith, Secy.....Pinckneyville

Platt County.
W. F. Matson, Pres.....Monticello
B. L. Barker, Secy.....White Heath

Pike County.
J. D. McKinney, Pres.....Barry
R. H. Main, Secy.....Barry

Pope County.
Jas. Dixon, Pres.....Hartsville
W. A. Sim, Secy.....Golconda

Pulaski County.
Monroe, Doty, Pres.....Grand Chain
A. W. Tarr, Secy.....Grand Chain

Putnam County.
G. A. McCormick, Pres.....Hennepin
R. G. Dakin, Secy.....Magnolia

Randolph County.
C. G. Smith, Pres.....Red Bud
A. D. Steele, Secy.....Chester

Richland County.
H. T. Watkins, Pres.....Olney
E. H. Horner, Secy.....Olney

Rock Island County.
F. H. Gardner, Pres.....Moline
Ralph Dart, Secy.....Moline

St. Clair County.
Hugo Wangelin, Pres.....Belleville
J. W. Twitchell, Secy.....Belleville

Saline County.
J. R. Baker, Secy.....Harrisburg

Sangamon County.
R. D. Barry, Pres.....Springfield
E. R. Spicer, Secy.....Springfield

Schuyler County.
A. W. Ball, Pres.....Rushville
W. F. Harvey, Secy.....Rushville

Scott County.
J. W. Weis, Pres.....Manchester
J. P. Campbell, Secy.....Winchester

Shelby County.
W. J. Eddy, Pres.....Shelbyville
C. L. Smith, Secy.....Shelbyville

Stark County.
W. T. Hall, Pres.....Toulon
Arthur Parsons, Secy.....Toulon

Stephenson County.
R. J. Burns, Pres.....Freeport
Mary L. Rosenstell, Secy.....Freeport

Tazewell County.
E. F. Kelchner, Pres.....Delavan
C. G. Muehlmann, Secy.....Pekin

Union County.
S. C. Martin, Pres.....Anna
H. J. Lyerly, Secy.....Jonesboro

Vermilion County.
T. E. Walton, Pres.....Danville
E. E. Clark, Secy.....Danville

Wabash County.
R. J. McMurray, Pres.....Linn
G. C. Kingsbury, Secy.....Mt. Carmel

Warren County.
E. C. Linn, Pres.....Monmouth
A. G. Patton, Secy.....Monmouth

Washington County.
J. J. Troutt, Pres.....Nashville
D. S. Neer, Secy.....Beaucoup

Wayne County.
W. M. Johnson, Pres.....Johnsonville
J. P. Walters, Secy.....Fairfield

Whiteside County.
F. Anthony, Pres.....Sterling
C. M. Frye, Secy.....Rock Falls

White County.
M. J. Hopkins, Pres.....Burnt Prairie
F. C. Sibley, Secy.....Carmi

Will County.
Alfred Nash, Pres.....Joliet
M. K. Bowles, Secy.....Joliet

Williamson County.
A. M. Edwards, Pres.....Marion
D. D. Hartwell, Secy.....Marion

Winnebago County.
T. H. Culhane, Pres.....Rockford.
W. E. Park, Secy.....Rockford

Woodford County.
R. E. Gordon, Pres.....El Paso
Jos. I. Knoblauch, Secy.....Metamora